

Kenneth I. Roy, P.E., C.S.P.

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EXPERTISE

- X Design review of plans and specifications for conformance to fire protection requirements (NFPA Codes and Standards, and DOE Orders).
- X Development and performance of acceptance tests for new fire protection systems.
- X Building Codes: *SBC* and *UBC*. Some exposure to NFPA 5000.
- X NFPA fire codes and standards.
- X NFPA 101 *Life Safety Code* Evaluations of various facilities.
- X Fire barrier design, validation, and inspection.
- X Factory Mutual=s Loss Prevention Data Sheets.
- X Sprinkler system design, inspection, test, and maintenance.
- X DOE orders, standards, and guidelines.
- X Audits, both as a team member and lead auditor.
- X Computer analysis of water supply and distribution systems.
- X Fire pump design, installation, inspection, test, and maintenance.
- X Fire Protection Engineering Assessments (FPEAs) to evaluate facility fire protection compliance with fire codes and standards, and DOE Orders.
- X Procedure development and review.
- X Evaluation of fire protection programs to identify weaknesses and possible solutions.
- X Personal computer software (includes, but is not limited to, Word, Excel, VisualBasic, and KY Pipe).
- X Preparation and review of Fire Hazard Analyses (FHA).
- X Development of alternative approaches to Fire Code Compliance (DOE Equivalencies, Exemptions, and Variances).
- X 10 CFR 851 *Worker Safety and Health* program compliance.

WORK EXPERIENCE

April 2010 – date Energy Solutions, LLC on the Isotek Project, Oak Ridge, Tennessee

Fire Protection Engineer/Authority Having Jurisdiction/Subject Matter Expert
– I am currently serving as the senior fire protection engineer on a design effort to process stored Uranium at a facility at the Oak Ridge National Laboratory. I have revised Fire Hazard Analysis documents and prepared heat transfer calculations to answer fire protection related questions. I serve as the fire protection point of contact within the Isotek Project. I'm involved with day-to-day operations of a nuclear facility as well as design review for future facilities.

April 1998 – April 2010 Bechtel Jacobs Company, LLC, Oak Ridge, Tennessee

Authority Having Jurisdiction/Fire Protection Program Manager/Subject Matter Expert/Senior Engineer – Served as the BJC Fire Protection Program Manager and corporate subject matter expert in fire protection and life safety. Accomplishments include performing life safety assessments of occupied buildings; consulting on fire protection aspects of building D&D, waste material handling, and waste material processing; the complete revision of the company's welding, burning, and hotwork program (this included procedure and permit revision and development of computer based training); preparation, and review of Fire Hazard Analyses and Fire Protection Engineering Assessments; fire investigations; preparation of fire protection equivalencies for submittal to DOE based on alternative approaches to achieving equivalent levels of fire safety; and preparation of fire protection exemptions based on cost versus risk analysis. I work closely with the DOE Fire Protection Engineer on a weekly basis and serve as a resource for projects and groups throughout BJC with reference to issues relating to fire protection, fire risk, hydraulics, the chemistry and physics of fire, and fire protection requirements for building undergoing D&D.

1981 - March 1998 Lockheed Martin Energy Systems, Inc., Oak Ridge, Tennessee

Fire Protection Engineer - Duties have included making fire safety inspections of various facilities and preparing reports and recommendations to minimize the risk due to fire at a \$6 billion Department of Energy facility; preparing designs and specifications for sprinkler systems; conducting annual tests of Halon 1301 systems, CO₂ systems, fire pumps, and underground water supply systems; researching unusual fire problems associated with advanced energy research; reviewing engineering drawings and specifications; preparation and review of procedures; participation in formal audits; organizing a blood drive for 3500 people; supervision of a five person fire protection engineering department; and other tasks and projects as assigned.

1980 - 1981 Professional Loss Control, Oak Ridge, Tennessee

Fire Protection Engineer - Assignments with this small consulting company included conducting triennial fire protection audits of operating nuclear power plants; doing computer (and manual) hydraulic calculations for a number of sprinkler and water supply systems; preparation and review of fire detection system specifications and drawings.

1977 - 1980 Brown and Root, Inc., Houston, Texas

Design Engineer - Design experience with this large AE Company involved fire protection for naval bases, oil pipelines and oil tanker loading platforms. This work included basic design and preparation of specifications and drawings for deluge systems, high- and low-pressure CO₂ systems, fire detection and alarm systems, fire pumps, sprinkler and deluge fire

suppression systems, and underground water supply systems.

1975 - 1977 Insurance Services Office (ISO), Boston, Massachusetts

Engineering Representative - This job consisted of making town surveys in New England to determine the fire insurance class of the municipality by using the ISO *Fire Suppression Rating Schedule*. This required an analysis of the town fire department(s), water department, fire alarm systems, building code(s), and building code enforcement. Considerable interaction with town officials and fire department officers was required.

EDUCATION

1984 - 1988 University of Tennessee, Knoxville

M.S. degree in Industrial Engineering with a concentration in information systems.

1971 - 1975 Illinois Institute of Technology, Chicago

B.S. degree in Fire Protection and Safety Engineering.

PROFESSIONAL AND PERSONAL NOTES

- X Full member of the Society of Fire Protection Engineers since 1985
- X Professional Engineer (P.E.), State of Illinois (#062-038512)
- X DOE "Q" Level Security Clearance since 1981 (active)
- X Certified Safety Professional (CSP) #18716
- X Radiological Worker II Certification
- X Past president of Tennessee Valley Chapter of the Society of Fire Protection Engineers
- X Member of Salamander Honorary Fire Protection Engineering Society
- X Publication list available upon request
- X References available upon request