Robert W. Rice, Ph.D., P.E.

Vice-President, Senior Professional Engineer

Education

Ph. D., Environmental Sciences and Engineering, University of Texas at El Paso, 2004
M.S., Chemical Engineering, Arizona State University, 1988
B.S., Chemical Engineering, University of Colorado, 1983
B.S., Business Finance, University of Colorado, 1983

Certifications

Professional Engineer, State of Texas (License Number 92747)

Summary

Mr. Rice has 21 years of experience in the fields of chemical and process engineering. He has participated in a surveillance of the WIPP facility, conducted computer code development, performance assessments, and probabilistic and baseline risk assessments for Department of Defense and Department of Energy clients. His work experience has included fate and transport modeling in air, soil, and groundwater media for hazardous and radioactive contaminants. He currently prepares and conducts performance assessments, and prepares documentation for the Yucca Mountain Project on behalf of the Nuclear Regulatory Commission and the Center for Nuclear Regulatory Analyses. He also participates in SRT, Inc. business development activities and serves as an SRT, Inc. Vice-President and a member of the Board of Directors.

Professional Highlights

- Participating in business development activities including marketing and customer relations; serves as an SRT, Inc. Vice-President and on the SRT, Inc. Board of Directors.
- Providing technical support to the Nuclear Regulatory Commission and the Center for Nuclear Regulatory Analyses for the Yucca Mountain Repository Program in anticipation of any license application submitted by the Department of Energy. Support includes document preparation, code development and testing, and analyses.
- Prepared Research & Technology Waste Treatment Plant compliance documentation for high-level and low-activity waste vitrification at the Hanford Site in Richland, Washington.
- Conducted a risk assessment at Department of Defense sites for soil and groundwater contamination at Laughlin, Air Force Base in San Antonio, Texas.
- Participated in a surveillance of the WIPP facility for the Hazardous Waste Facilities Permit. The surveillance included both the above-ground and below-ground WIPP facilities.
- Developed conceptual models for multiple release sites contaminated with radioactive and hazardous constituents at the Idaho National Engineering and Environmental Laboratory. Duties included compiling and interpreting site characterization data, performing sensitivity

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analyses on all input parameters, and evaluating data for flow and transport model calibration. Selected appropriate public domain computer models using regulatory guidance and agency requirements and compared selected models against other public and private sector models.

- Performed fate and transport modeling in support of licensing for the proposed high-level waste repository (Yucca Mountain). Responsibilities included preparation of supporting documentation; compilation of information for input parameter distribution; completion of quality assurance requirements; and development and testing of a stochastic total-system performance assessment code.
- Developed, tested, and implemented a groundwater transport model that utilized deterministic and stochastic methods. Analyzed laboratory and field data to determine point values and statistical distributions for model input values. Verified results based on analytical data.
- Performed fate and transport modeling using analytical and numerical codes for contaminants leaching from a proposed repository site. Activities included compiling and interpreting hydrogeologic and contaminant data, developing a source term model, calibrating modeled results to field data, and verification of model results using different models and boundary conditions.
- Performed baseline and probabilistic risk assessments to characterize human health risks from exposure to organic and inorganic contamination at March Air Force Base. Activities included rigorous statistical analysis of soil sampling data; contaminant fate and transport modeling using the SUTRA, GWSCREEN, and RESRAD computer models; development of a quantitative Baseline Risk Assessment and Probabilistic Risk Assessment; and parameter development for use in both risk assessments.
- Supported landfill site certifications and monitoring well placement. Conducted studies of saturated and unsaturated zone groundwater and contaminant transport, and wellcapture analysis using public and private domain models including CHEMFLO, SUTRA, PORFLOW, and GWSCREEN.
- Prepared documentation and presented results from modeling studies to regulatory representatives. Presentations included regulatory and public meetings.
- Performed a Baseline Risk Assessment to characterize human health risks from exposure to radioactive, organic, and inorganic contamination at several facilities at the Idaho National Engineering and Environmental Laboratory. Activities included complete statistical analysis of contaminated and background soil analytical data. To assess the risk associated with the groundwater pathway contaminant fate and transport modeling using codes such as SUTRA, GWSCREEN, RESRAD, CHEMFLO, and PORFLOW.
- Conducted fate and transport modeling and site-specific data analysis to assess risks resulting from the groundwater pathway with Environmental Protection Agency, Department of Energy, Idaho National Engineering and Environmental Laboratory, and private model codes in support of a county landfill certification and small community exemption.
- Researched, developed, and implemented a Monte Carlo simulation for use in performing probabilistic human health risk assessments.

Summary of Work Experience

2002–Present	Vice-President, Business Development Lead, and Senior Engineer, SRT, Inc.
2000–2002	Senior Engineer
1996–2002	Consultant/Senior Engineer
1992-1996	Environmental Engineer