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Environmental Analysis

- For an international economics consulting firm, developed an advanced services and business model for advising on climate change response.
- For a power plant, guided the process hazard analysis (PHA) required by U.S. Environmental Protection Agency (EPA) and the U.S. Occupational Safety & Health Administration for presence of threshold quantities of hazardous chemicals.
- For a power plant, conducted the offsite consequence analysis (OCA) required by EPA for the presence of threshold quantities of hazardous chemicals.
- For the U.S. Department of Energy's (DOE's) Oak Ridge National Laboratory, analyzed and reported on the effectiveness of remedial actions at three low-level waste disposal facilities.

Expert Witness Testimony

- For a *Fortune 500* wood product manufacturer, provided courtroom expert witness testimony on the nature and extent of groundwater contamination at a former creosote wood treatment facility.
- For a property owner, provided expert witness deposition on environmental compliance and operating costs for a solid waste landfill design.

Environmental Costs

- For an electrical power generating plant, statistically analyzed a multi-year interval of "heat rate" data to determine most cost-efficient turbine, burner, and fuel configurations for environmentally compliant combustion of gas and oil fuel.
- For a power plant, evaluated product costs versus environmental liabilities for hazardous chemicals and advised on replacements.
- For DOE, developed a cost model for applying various remedial actions at waste disposal facilities.

Environmental Investigations

- For a *Fortune 500* oil company, traveled to Indonesia to investigate mercury contamination in waste streams and materials stored at an operating oil and gas production facility.
- For a Virginia utility company, directed investigation at a former electrical power generating facility in Richmond, Virginia, for hazardous materials, e.g., polychlorinated biphenyls (PCBs), heavy metals, asbestos, etc.

- For a Virginia newspaper publishing facility, quantified the extensive lead contamination in the main plant's roof from the historical use of lead type and exhausting of lead-contaminated particulates. He oversaw safe removal of this extensive contamination.
- At a *Fortune 500* company's former production facility in Suffolk, Virginia, directed the investigation of hazardous materials remaining in industrial equipment, building components, soil, and groundwater.

Environmental Response and Remediation

- For a power plant, managed the response to overflow of fuel oil at a 7.5-million gallon storage tank, directing initial response, subsequent investigation, and cleanup of contamination.
- For a commercial property owner, directed the response to discovery of PCB leakage at a large electrical transformer, which caused high levels of structure and soil contamination. Managed the investigation and decontamination of the structures and soil.
- For an owner of multiple commercial properties, directed the identification and abatement of asbestos-containing building materials.

Knowledge/Information Management Technology

- Developed advanced environmental management software for use by industrial facilities that store and utilize chemicals and oil. It is Web-based software that was designed to integrate and centralize environmental management functions, information, and databases.
- For a power plant, created, installed, and populated software that established an onscreen, integrated system for the facility's five federal and state environmental management and contingency plans. It eliminated duplication of information, reduced plan maintenance costs, and improved accessibility by plant personnel to vital information.
- For a power plant, created and implemented software that expedited the plant's wastewater discharge permit renewal. It reduced renewal costs by eliminating paperwork, and reduced permit operations costs by lowering the regulatory agency-required monitoring burden by more than half.

Water Resources Management

- For the U.S. Federal Aeronautics Administration, evaluated hazardous and petroleum materials management practices for their potential effects on stormwater quality management at U.S. airports.
- For DOE's National Low-Level Waste Management Program, prepared a technical document analyzing the application of grouting technology to stabilize disposal site trenches against groundwater intrusion and subsidence.

- For DOE’s Savannah River Laboratory, directed the analysis of needs and remedial alternatives for stabilizing a 76-acre disposal site against further contamination of groundwater.
- For the owner of a former plastics manufacturing facility near Fredericksburg, Virginia, directed a Resource Conservation and Recovery Act (RCRA) type investigation that evaluated soil and groundwater contamination from hazardous materials.
- Established and directed a 2-year groundwater monitoring program at a former waste disposal site managed by DOE in St. Louis, Missouri.
- Directed response to a 10,000-gallon oily water spill that flowed offsite at a power plant, managing facility and contractor activities and coordinating with state and federal agencies. Oversaw decontamination of facility subsurface structures and groundwater and redesign of the plant’s oily water treatment system.

Guidance Documentation

- For EPA in coordination with an Australia-based consulting firm, prepared video and Web-based training for applying advanced asset management principles and practices at water and wastewater treatment facilities.
- For the EPA Headquarters Superfund Program, developed the *Remedial Project Manager’s Handbook*, which guided a remedial project manager’s investigation and remediation of a Superfund site.
- For the DOE’s National Low-Level Waste Management Program, prepared the *Corrective Measures Handbook* for Shallow Land Burial, which guided application of remedial actions at DOE waste disposal sites.
- For power plants and other industrial facilities, prepared numerous plans for environmental management, risk management, and emergency contingencies.

Recent Presentations, Publications, Conference Roles

- “Environmental Liabilities with the Codification—Is It Simpler, Better?” *Environmental Claims Journal*, Corporate Environmental Disclosure Column, Vol. 22, Issue 1: 49-60, January-March 2010.
- “Reconsidering Loss Contingency Postponement—Raising the Game,” *Environmental Claims Journal*, Corporate Environmental Disclosure Column, Vol. 21, Issue 2: 170-176, April-June 2009.
- “Expanded Disclosure Distress and Two Classes of Loss Contingencies,” *Environmental Claims Journal*, Corporate Environmental Disclosure Column, Vol. 20, Issue 4: 307-316, October-December 2008.
- “Being Underway, Not in Delay, on Climate Change-Related Disclosure,” *Environmental Claims Journal*, Vol. 20, Issue 1: 23-38, January-March 2008.
- For the *Water Industry Climate Change Research Workshop* of the American Water Works Association Research Foundation (AwwaRF) and Water

Environment Research Foundation (WERF), vice-chair of the *Infrastructure Workgroup*, Denver, CO, January 8-9, 2008.

- “Alignment of Environmental Management with Asset Management,” presented at the Plant Manager's Business Roundtable of the *Electric Power 2003 Conference* in Houston, TX, March 3, 2003.
- For *Power* magazine, prepared “Software Guides Powerplants Through the Environmental Jungle,” a review of environmental management software for electrical power generating plants, published in December 2001 issue.
- For the *Electric Power 2001 Conference*, co-chaired the conference session on “Integrated Environmental Management,” Baltimore, Maryland, March 21, 2001.
- For the 48th *Annual Energy Information Technology Conference*, panelist for the workshop session “Applying Advanced IT Tools Throughout a Plant’s Life Cycle,” Phoenix, Arizona, November 7, 2000.

Education

Ph.D., Environmental Engineering, University of Tennessee, 1983

M.S., Water Resources Development, University of Tennessee, 1975

B.A., Chemistry Major, Earlham College, 1968

Employment

Founded Rose Environmental (1993-2001, 2003 to present), and delivered environmental management and compliance support to industrial clients. During 2002, was Vice President and Chief Technology Officer at Stewart Environmental, an environmental management software development company in Auburn, AL. Prior to creating Rose Environmental, was Director of Environmental Engineering Services for industry and government agencies for the Virginia office of Espey, Huston & Associates (1987-1993), an Austin, Texas-based engineering company. Came to Espey, Huston from the management consulting firm of Booz, Allen & Hamilton (1985-1987), Bethesda, Maryland; was Senior Associate and consulted to the U.S. Environmental Protection Agency’s (EPA’s) superfund and groundwater programs.

Before joining Booz Allen, was Manager of Evaluation Research Corporation’s Oak Ridge, Tennessee office (1979-1985) and consulted to the U.S. Department of Energy’s (DOE’s) Oak Ridge National Laboratory and DOE’s National Low-level Waste Management Program. Was Visiting Assistant Professor in the Department of Civil Engineering at the University of Tennessee, Knoxville (1980-1981). Set up and operated a chemical analysis laboratory for J.H. Hood Company (1975-1979). Served in the U.S. Army and the Vietnam War.