

Director

MICHAEL K. BOLLENBACHER, CHP, REA

Professional Qualifications

Mr. Bollenbacher has 24 years of experience performing a wide range of environmental work with radiological materials and hazardous chemicals on contaminated sites in over 20 states. He has been the principal investigator or task manager for site characterizations, fate and transport modeling, risk assessments, feasibility studies, and site remediations. He has been involved in site remediations, and has actively participated in decontamination and decommissioning of land, buildings and equipment. He has also performed as the radiation safety officer for a uranium mill tailings cover pilot project and designed specialized equipment used by the U.S. Environmental Protection Agency (EPA) to measure the permeability of soil to radon gas.

Education

M.S., Environmental Engineering, Clarkson University, Potsdam, New York; 1982.

B.A., Biology, New York State University College at Oswego, New York; 1976.

Registrations/Certifications

Certification by the American Board of Health Physics in 1992.

Registered Environmental Assessor in California; 1990.

OSHA 40-hour Hazardous Waste Operations Training and 8-hour Hazardous Waste Supervisor Training meeting the requirements of 29 CFR 1910.120.

Experience and Background

- 1993 - ***Vice President/Senior Scientist, Auxier & Associates, Inc., Knoxville, TN.***
Present Provides consultant services in health physics and environmental science, with particular emphasis on site characterization and remediation, dose reconstruction, environmental auditing, due-diligence and both long-term and short-term risk assessment. Project management and technical activities include site characterization surveys, work plan preparation, dosimetry, radiological risk analysis, environmental transport modeling, derivation of cleanup levels, radiological support during planning and field operation phases of site and equipment remediation, interaction with regulatory agencies and the public, and data evaluation, validation, and analysis.
- 1990 - ***Health Physicist, IT Corporation, Knoxville, TN.***
1993 Provided health physics, risk assessment, and environmental modeling services to government and private clients. Served as the principal investigator for the CERCLA risk assessment of the eight radioactive waste disposal areas at the Fernald Environmental Management Project (FEMP) known collectively as Operable Unit One. Provided radiological and risk assessment support for remedial investigations and feasibility studies at DOE and DOD facilities. Developed technical approaches used to model contaminant transport and exposures for a variety of projects. Developed health and safety plans for the excavation of a low-level mixed waste underground storage tank at Oak Ridge National Laboratory. Prepared the radiological sampling and analysis plan for a 300 acre soil survey. Provided technical support for negotiations with regulatory agencies. Designed the radon measurement system used by IT labs to determine radon emission rates from laboratory samples.
- 1985- ***Environmental Engineer, Rogers, and Associates Engineering Corp., Salt Lake City, UT.***
1990 Provided site characterization, decontamination and decommissioning, fate and transport modeling, dose and risk assessment, and laboratory services to a variety of private, industrial and government

clients. Planned and conducted field sampling programs to characterize sites contaminated with hazardous or radioactive materials in nine states and the Gulf of Mexico. Actively participated in remediation of sites and decontamination/decommissioning of structures contaminated with radioactive materials. Established survey protocols, conducted equipment surveys, coordinated survey activities, and supervised dirt-moving operations. Participated in verification of cleanup for a 64,000 sq. ft. manufacturing facility. Characterized radon distribution and migration potential in soils and structures. Performed NESHAPS compliance surveys of radon fluence at a variety of federal and commercial facilities. Designed and built specialty sampling equipment, including radon/soil gas sampling and measurement equipment (standard used by EPA at that time). Established and maintained monitoring programs to track and document internal and external occupational exposures to 23 employees while acting as a radiation safety officer during a uranium mill tailings cover project. Performed radiological entrance and exit surveys to verify status of personnel and equipment. Wrote protocols on the shipping and handling of naturally occurring radioactive material (NORM) for a major oil company's domestic operations. Conducted dose and risk assessments for several disposal facilities at humid and arid sites handling mixed waste, low-level radioactive waste, and NORM. Ancillary work included modeling the fate and transport of environmental contaminants at these sites. Established and managed large project databases using FORTRAN, Excel, and dBase III.

- 1983 - ***Environmental Engineer, Aerojet Heavy Metals Company, Jonesborough, TN.***
1985 Coordinated environmental monitoring programs and supported the remediation of portions of a manufacturing and milling facility contaminated with uranium and thorium. Upgraded and maintained the site's compliance monitoring network, and expanded the existing environmental program. Set up and managed an on-site radiological soils laboratory. Improved runoff control for a 1.2 acre pond contaminated with radioactive and chemical wastes. Operated 20,000 gpd industrial wastewater treatment plant during evening shifts. Prepared documentation for shipments of contaminated sludge and soil to a LLW disposal facility. Tracked costs for the final two stages of a three stage, two million dollar remediation project. Developed unique computer applications for analysis of waste, contaminated soils and building materials. Developed "Rapid Air Quality Analysis" computer code to subtract radon interference from air samples used to monitor occupational and environmental airborne levels of uranium. This application cut remedial response time from three days to one day, and reduced program manpower requirements by approximately 25%. Performed equipment decontamination and radiological surveys to verify status of equipment prior to release from the facility.
- 1980 - ***Research Assistant, Clarkson University, Potsdam, NY.***
1982 Used ion exchange resins to estimate bio-available phosphorous in river systems. Established and maintained project databases. Developed conceptual models describing the fate of pollutants in river, lake, and estuarine systems. Wrote computer codes to apply these models. Course work emphasized water/waste water processes and aquatic chemistry.
- Prior to ***Various technician level positions.***
1980 Collected fish and small mammals for an Environmental Impact Statement (EIS) on the pesticide DIMILIN prepared by the SURCO Corporation, Oswego, New York. Collected data on near-shore fish populations for two EISs on proposed nuclear power plant complexes for Hazelton Environmental Services, Syracuse, New York. Tested and developed chemical coatings as an R&D technician at Strathmore Products, Syracuse, NY. Served as an open water volunteer instructor for Peace Corps sponsored courses in tropical marine biology at the University of Honduras at Tegucigalpa.
- 1972 ***Co-Recipient, National Science Foundation, Oswego, NY.***
1976 Co-authored the first student-originated research proposal from a NY State University College Center to be accepted for funding by the National Science Foundation (NSF). Performed a baseline population survey of amphibians and reptiles along a 35-mile coastal zone shoreline. Co-authored the first comprehensive wildlife and habitat-based land-use plan ever developed for Oswego County's shoreline. The State cited this report during its acquisition of 250 acres of highly sensitive wetlands.

Professional Affiliations

Health Physics Society
American Chemical Society

Awards/Activities

IT Technical Associate, 1990 – 1993
Aerojet General's, R. B. Young Technical Innovation Award, 1985
Dean's List, State University College at Oswego, Spring, 73 through Spring, 76 Graduated Cum
Laude
Past Reviewer for Health Physics Journal
Past Treasurer of the East Tennessee Chapter of the Health Physics Society

Publications

Mr. Bollenbacher has prepared or contributed to over 100 reports and publications in the fields of health physics and environmental science.