



Richard D. Kuchenrither, Ph.D, P.E., BCEE

Education

- B.S., Civil Engineering, University of Colorado, 1972
- M.S., Environmental Engineering, University of Colorado, 1981
- Ph.D., Environmental Health Engineering, University of Kansas, 1992

Professional Registration

Colorado, Nebraska (Emeritus)

Awards/Specialization Certification

- **Emerson Medal**--Water Environment Federation;
- **Honorary Member**--WEF;
- **Milo S. Ketchum Award**--University of Colorado;
- **Arthur Sidney Bedell Award**--WEF;
- **Samuel Arnold Greeley Award**--American Society of Civil Engineers;
- **Diplomat of Environmental Engineers**--American Academy of Environmental Engineers;
- **Kappe Lecturer**--AAEE,
- **N. T. Veatch Mark of Excellence**--Black & Veatch;
- **Army Commendation Medal**--U.S. Army;
- **Tau Beta Pi; Chi Epsilon; Distinguished Military Graduate**--Society of American Military Engineers--University of Colorado College of Engineering

Employment

Corps of Engineers
1st Lt 1972-1976

Briscoe, Maphis, Murry & Lamont
Design Engineer 1976-1978

B&V
Sr.VP / VP/Partner 1978-2011

University of Colorado
Adjunct Professor 2011- .

Professional Associations

AWWA, WEF, AAEE

Over his 41 year career, Dr. Kuchenrither's responsibilities have been primarily related to water and wastewater treatment at the levels of Project Director, Senior Vice President, Vice President, Partner-in-Charge, technical consultant, project manager, project engineer, and design engineer. He is an internationally recognized expert in the area of residuals management and has been instrumental in helping cities, such as Boston, New York, Philadelphia, Washington D.C., Denver, Atlanta and Los Angeles, in implementing beneficial reuse programs. He specializes in gaining public acceptance of biosolids beneficial use programs. Dr. Kuchenrither has played a key role in starting and implementing two management and leadership workshops for Black & Veatch: the Howard University Student Leadership Institute and Utility Executive Leadership Institute.

At the present time he is on the National Biosolids Partnership Board consisting of the Water Environment Federation, U.S.EPA, and the National Association of Clean Water Agencies. He has served on the boards of the Water Environment Research Foundation, Water For People, and American Academy of Environmental Engineers.

Dr. Kuchenrither is a past president of the Water Environment Federation. The Federation is a 40,000 member not-for-profit international organization representing professionals in the water environment business. He has been honored as the Kappe Lecturer by the American Academy of Environmental Engineers and served on the nominating committee for the prestigious Stockholm Water Prize.

Dr. Kuchenrither has provided congressional testimony on behalf of the Water Environment Federation (WEF) in the area of water quality and residuals management. He has written numerous papers and has made presentations on the topic of residuals management at international, national, regional, and state conferences.

He has also served as the Principal Investigator on several research projects for the Water Environment Research Foundation. He chaired the Residuals Management and Education committees for the Water Environment Federation and was a member of the Technical Practice Committee. In addition, Dr. Kuchenrither has co-authored a widely used textbook on biosolids management "Municipal Sludge Management, Processing Treatment and Disposal." He is co-author of the chapter on composting for the WEF Manual on Sludge Stabilization (MOP FD-9) and was responsible for preparation of Chapter 20, "Ultimate Disposal," in the Design of Municipal Wastewater Treatment Plants (MOP 8).

Before joining Black & Veatch, Dr. Kuchenrither worked as an engineer for the City of Boulder, Colorado, and as City Engineer for Fountain, Colorado. He also served as an officer in the U.S. Army Corps of Engineers.

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RELEVANT PROJECT EXPERIENCE

Omni-Processor Landscaping Project, Water Environment Research Foundation and Bill & Melinda Gates Foundation

Identifying and evaluating the global sludge processing technologies for emerging countries.

Program Management, Metro Wastewater Reclamation District, Denver, Colorado

Project Director - Implemented the Capital Improvement Program including planning, preliminary design, detailed design, bidding, construction management, and commissioning.

Facility Plan Update, Metro Wastewater Reclamation District, Denver, Colorado

Project Director - Updated discharge permit requirements, capital improvements, and transmission system.

Biosolids Management program/Facility Plan, Metro Wastewater Reclamation District, Denver, Colorado

Project Director - Updated the Biosolids Management Program including secondary liquid stream improvements, drought impacts on Metro farmland, biosolids technologies, and regulatory impacts.

Biosolids Optimization and Diversification Study, Metro Wastewater Reclamation District, Denver, Colorado

Project Director - Evaluated the initiatives for diversifications, METROGRO Farm, biosolids treatment optimization, gas utilization, and energy recovery.

Black & Veatch Student Leadership Institute, Howard University, Washington, DC

Project Director - Addressed leadership, management, effective presentations, communications, negotiations, and time management.

Black & Veatch Utility Executive Leadership Institute

Project Director - Attended by water, wastewater, and power utilities and addressed leadership, management, asset management, and organization.

Kappe Lectures, American Academy of Environmental Engineers, Annapolis, Maryland

Lecturer – Included: The Future of Environmental Engineering; Biosolids Management the Key to Boston Harbor Cleanup; and Beneficial Use of Biosolids: Blessing or Curse. These were presented at the University of

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Colorado, Johns Hopkins University, Howard University, Georgia Institute of Technology, Carnegie Mellon University, University of North Carolina, University of Nebraska, Texas A&M, New Mexico State University, Tennessee Technology University, San Diego State University, Drexel University, and Washington University of St. Louis.

City of Houston, Texas

Technical Consultant - Technical consultant for the heat drying facility plan for Alameda Simms Wastewater Treatment Plant.

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City of Toronto, Ontario, Canada

Technical Consultant - Provided technical assistance to the City to help them gain public assistance for their implementation of their multi-faceted beneficial service program.

Biosolids National Partnership, USEPA, AMSA, and WEF

Technical Consultant - Provided assistance to USEPA, Association of Metropolitan Sewage Agencies and the Water Environment Federation in helping to implement a nationwide Environmental Management System for biosolids.

City of Seattle, Washington

Technical Consultant - Provided oversight and peer review of the King County Regional Wastewater Services plan. The plan included recommendations for biosolids management, wastewater treatment technologies and CSO facilities.

Columbus, Georgia

Technical Consultant - Help facilitate the preparation of a strategic planning for the combined water and wastewater treatment agency for Columbus, Georgia.

Wastewater Sludge Incinerator Emissions, Water Environment Research Foundation, Washington, D.C.

Principal Investigator - Prepared the data analysis for the characterization of wastewater sludge incinerator emissions.

City of Atlanta, Georgia

Partner-in-Charge/Technical Advisor - Served as partner-in-charge and technical advisor for the City as they evaluated alternatives to biosolids incinerations. The project included close coordination with the citizens in the community surrounding the wastewater treatment plants and a citizen advisory committee.

Sludge Management Technologies, WPCF Research Foundation, Washington, D.C.

Principal Investigator - Prepared an assessment of emerging sludge management technologies. Assessment was used to set the foundation's research agenda for the next five years.

Bureau of Sanitation, City of Los Angeles, California

Project Manager - Prepared comments for the City on draft 503 sludge regulations. Project team included numerous nationally known sludge management experts.

North Service Area, City of Charlotte, North Carolina

Project Manager - Prepared a residuals management plan for the City's three wastewater treatment plants that comprise its North Service Area.

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Water and Wastewater Residuals Management Plan, City of Charlotte, North Carolina

Technical Advisor - Prepared a combined water and wastewater residuals management plan for the City of Charlotte.

Sludge Management, City of New York, New York

Technical Advisor - Served as member of technical advisory committee overseeing the City's efforts to end ocean disposal and implement land-based options.

City of Detroit, DWO Associates, Detroit, Michigan

Project Manager - Prepared an evaluation and preliminary design for a proposed deep well wet oxidation process for the City of Detroit.

BioEDGE Software Development, Black & Veatch

Program Manager - Developed Black & Veatch's BioEDGE software. This software is used by wastewater treatment agencies across the United States to track compliance with the 503 sludge regulations.

Residuals Management, City of Concord, California

Technical Advisor - Develop a residuals management plan for water plant residuals.

Sludge Management Plan, City of Cairo, Egypt

Assistant Project Manager - Provided guidance and quality control services for the development of a sludge management plan for Cairo. The project required intermittent international travel but did not require residency.

Sludge Regulation Review, US Environmental Protection Agency (EPA), Los Angeles, California

Project Manager - Prepared detailed scientific review comments for the proposed US Environmental Protection Agency (EPA) sludge regulations.

Water Pollution Control Plant, Philadelphia Water Department, Philadelphia, Pennsylvania

Project Manager - Supervised the preparation of a closure plan for sludge lagoons at the Southwest Water Pollution Control Plant. The study included the evaluation of several options to close the lagoons.

Residuals Management, Metropolitan Waste Control Commission, Minneapolis and St. Paul, Minnesota

Project Manager - Developed a residuals management plan for the Commission's three wastewater treatment plants for the southwest service area.

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Residuals Management, Metro Water Control Commission, Minneapolis and St. Paul, Minnesota

Project Manager - Developed a residual management plan for the Metro Water Control Commission's three wastewater treatment plants for the southwest service area.

Residuals Management Plan, Massachusetts Water Resources Authority, Boston, Massachusetts

Project Manager - Developed a long-term plan for residuals management.

Composting Facility Startup, City of Philadelphia, Pennsylvania

Project Manager - Assisted with odor control, startup, and compost utilization program implementation.

Sludge Management Plan, County of North San Diego County, California

Project Manager - Developed sludge management plan.

Incinerator Ash Utilization Study, Metropolitan Waste Control Commission, Minneapolis and St. Paul, Minnesota

Project Manager - Prepared study to investigate alternatives to landfilling incinerator ash.

Sludge Composting Facility Design, City of Fort Collins, Colorado

Project Manager - Prepared study and designed sludge composting facility.

Composting Alternatives, East Bay Municipal Utility District, Oakland, California

Project Manager - Performed study of composting alternatives.

Sludge Composting Facility Design, City of Oxnard, California

Project Manager - Designed combined in-vessel and windrow composting facility.

Sludge Management Plan, Clark County Sanitation District, Las Vegas, Nevada

Project Manager - Developed comprehensive sludge management plan.

Sludge Management Plan, City of Columbia, Missouri

Technical Advisor - Developed comprehensive sludge management plan.

Sludge Management Plan, Metropolitan Denver Sewage Disposal District, Denver, Colorado

Project Engineer - Developed comprehensive sludge management plan.

Plans and Specifications, City of Norfolk, Nebraska

Project Manager - Prepared plans and specifications for a new 1.5 mgd well, pump, and well house for the City's existing raw water collection system.

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Sludge Management Plan, City of Fort Collins, Colorado

Project Engineer - Developed comprehensive sludge management plan.

ASSOCIATION LEADERSHIP POSITIONS

1993-1997 Water Environment Federation, Past President, President, President-Elect, Vice President

2006-2010 Water For People Board Member

1995-1998 and 2000-2006 Water Environment Research Foundation Board

2006-Present American Academy of Environmental Engineers Board

1986-1987 Rocky Mountain Water Environment Association President

1998-2002 University of Colorado, Civil Engineering Department, Professional Advisory Board

1997-2002 Stockholm Water Prize, Nominating Committee

PUBLICATIONS

Water Reuse, Japan/USA International Conference, July 2004, Author

Innovations in program Management: Understanding and Controlling Costs, Water Environment Federation, Utility Executive, March 2009

Denver Metro District: Quantifying Energy and Greenhouse Gas Mitigation Options for Biosolids Treatment Alternatives, Residuals and Biosolids, 2010, Co-author

Renewing Our Commitment to Renewable Energy: Banking on Biosolids Energy Recovery, National Association of Clean Water Agencies, 2010, Co-author

Clean Water: The Key to Economic Revitalization, 69th Annual Conference, Water Environment Federation, Chicago, Illinois, October 1997

Municipal Sludge Management, Processing, Utilization and Disposal, Technomic Publishing Company, Inc., 1992, Co-author

Sludge-A Common Problem, IWEM Annual Conference, Birmingham, England, April 1992, Co-author

Would You Recognize a Beneficial Use If You Saw One?, Water Environment and Technology, June 1991, Author

New Sludge Regulations Promise Widespread Implications, Environmental Protection, November December 1991, Author

The Role of Composting as a Solid waste Management Tool, University of Kansas, May 1990, Co-author

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Fundamentals and Applications/ Windrow Composting, Journal of Environmental Engineering, July 1990, Co-author

Preview Analysis of the National Sewage Sludge Survey, Biocycle, July 1990, Author

The Story Behind the Regulations, Biocycle, December 1989, Author

Sludge: A Case of Regulations Without Representation, Water Engineering and Management, December 1989, Author

An Overview of Current Sludge Management Planning and Disposal Practices in the United States, 1989 WPCF Asia/Pacific Rim Conference, Honolulu, Hawaii, October 22-25, 1989, Author

An Overview of Sludge Landfilling Regulations, 1989 Joint AWWA/WPCF Residuals Management Conference, San Diego, California, August 13-16, 1989, Author

Sludge Regulations Provide Flexible Options, Journal: Water Pollution Control Federation, April 1988, Author

Dual Utilization: Metropolitan Denver's Approach to Sludge Management, 1985 ASCE Environmental Engineering Specialty Conference, Boston, Massachusetts, July 1-5, 1985, Co-author

Design and Operation of An Aerated Windrow Composting Facility, Journal: Water Pollution Control Federation, March 1985, Co-author

An Economic Comparison of Composting and Dual Utilization, Biocycle, July-August 1984, Co-author

Composting Helps Denver Manage Sludge, Deeds and Data - WPCF, May 1984, Co-author

A Process for Each Season, Water Engineering and Management, April 1984, Co-author

Identifying and Selecting Organic Composting Amendments, Biocycle Journal of Waste Recycling, November 1983, Author

Mortality Patterns of Indicator Organisms During Aerobic Digestion, Journal, WPCF, January 1983, Author

A Sludge Management Method Gets Updated, Water Engineering and Management, December 1985, Co-author

PRESENTATIONS

Sewage Sludge Use & Disposal: Strategies, Plans and Operational Practices, Anglian Water/Robinson College, Cambridge, UK, 2000, Author

Future of Residuals Management, University of Wisconsin Continuing Education Conference, Milwaukee, Wisconsin, April 1991

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Critical Considerations for Contract Operation, California WPCA, Los Angeles, California, April 1991

Pasteurization Processes, Biocycle Annual Conference Philadelphia, Pennsylvania, 1991

New Sludge Regulations and Disposal Options, 40th Annual University of Kansas Environmental Engineering Conference, February 7, 1990

Future Outlook for Beneficial Use Projects, University of Wisconsin Beneficial Use Conference, Milwaukee, Wisconsin, February 16, 1990

Impacts of Proposed Sludge Regulations on the City of Los Angeles Sludge Management Programs, 63rd Annual WPCF Conference, Washington, D.C., October 1990

Practical Interpretation of the National Sewage Sludge Survey Data, WPCF Residuals Management Conference, New Orleans, Louisiana, December 1990

A Preliminary Analysis of the National Sewage Sludge Survey Data, 20th Annual National Biocycle Conference on Composting and Recycling, Minneapolis, Minnesota, May 14-16, 1990

Composting Odors: A New Approach to Characterization and Control, 8th Annual West Coast Regional Biocycle Conference, San Diego, California, March 5-7, 1990

Sludge Quality Benefits Realized from Drinking Water Stabilization, 61st Annual WPCF Conference, Dallas, Texas, October 2-6, 1988

Composting Aeration System Design: Theory and Practice, 1986 WPCF Annual Conference, Los Angeles, California, October 6-9, 1986

Composting's Emerging Role in Sludge Management, 58th Annual WPCF Conference, Kansas City, Missouri, October 6-8, 1985

Resource Recovery Aspects of Sludge Composting, 4th Annual New England Resource Recovery Conference and Exposition, Norwich, Connecticut, June 13-14, 1985

Composting in Cold Climates, 3rd Annual Spring Sludge Symposium, Brookfield, Wisconsin, April 17, 1985

Design of Large Scale Composting System, West Coast Workshop on Recycling Municipal Refuse, Sludge and Industrial Waste, San Francisco, California, March 13-15, 1985

Design of a Composting Aeration System, Southeast Regional Workshop on Composting and Land Application, Hollywood, Florida, November 14-16, 1984

Denver's New Approach to Windrow Composting, 14th National Composting and Waste Recycling Conference, Washington, D.C., May 7, 1984

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Cost Comparisons of Liquid Sludge Hauling and Composting, 1st Regional Workshop on Composting and Land Application Orlando, Florida, November 1983

Design and Operation of a Ten Ton Per Day Aerated Windrow Composting Facility, 56th Annual Conference, WPCF Atlanta, Georgia, October 1983

Windrow Composting: Denver's Innovative Approach to Sludge Management, 1983 Nevada Annual WPCA Conference, September 1983

Ten Ton Per Day Sludge Composting Demonstration Plant at Metropolitan Denver Sewage Disposal District No. 1, Rocky Mountain WPCA Joint Technical Activities, May 1983

The Investigation of Mortality Patterns of Three Indicator Organisms During Aerobic Digesters at Elevated Temperatures in the Mesophilic Range, 54th Annual Conference, WPCF Detroit, Michigan, October 1981

Composting as an Effective Sludge Management Tool, 64th Annual Meeting of the North Carolina Water Pollution Control Association, November 1984