

WILLIAM M. AUBERLE, P.E., BCEE
Principal, EN3 Professionals, LLC
Professor Emeritus, Northern Arizona University

William M. (Bill) Auberle maintains an active engineering practice as a Principal at EN3 Professionals -- a consulting engineering firm serving clients throughout North America. Concurrently, he is a Professor Emeritus of Civil and Environmental Engineering in the College of Engineering, Forestry, and Natural Sciences at Northern Arizona University. Professor Auberle's professional expertise includes air quality management and engineering, waste management strategies, environmental risk assessment and management, energy policy, and environmental conflict resolution.

Professor Auberle formerly was President of the national environmental consulting firm Yates & Auberle, Ltd.. In this capacity he directed professionals in the disciplines of environmental engineering, industrial hygiene, hydrogeology, and environmental monitoring and analysis.

Prior to entering business and education, Professor Auberle served governmental agencies as an author and administrator of environmental laws and regulations. His responsibilities have included the direction of programs in air quality management, water pollution control, radiation protection, noise control and solid/hazardous waste management. Professor Auberle has managed all environmental protection programs for the State of Colorado.

EDUCATION

B.S.I.E. West Virginia University, 1966
M.S.E., Environmental Engineering, West Virginia University, 1967
Morgantown, West Virginia
Professional Studies:
Columbia University, New York
University of Missouri, Columbia, Missouri

PROFESSIONAL EXPERIENCE

2009 – Present	Principal; EN3 Professionals, LLC
1995 – 2012	Program Manager; Landsward Institute, Northern Arizona University
1990 – present	Professor/Professor Emeritus, Civil & Environmental Engineering; Northern Arizona University
1984 – 1990	President; Yates & Auberle, LTD
1980 – 1984	Manager, Engineering and Marketing Services; Kemron Division, Borg <i>2532 North 4th Street, #610 Flagstaff, AZ 86004 (928) 773-8070 (office) www.en3llc.com</i>

Warner Corp.

- 1977 – 1980 Director, Division of Air Pollution Control, Associate Director of Health – Environmental Programs; Colorado Department of Health
- 1970 – 1977 Supervisor, Regional Air Pollution Control Agency and Chief, Bureau of Engineering; Montgomery County (Ohio) Combined General Health District
- 1967 – 1970 Air Pollution Specialist, Chief – Surveys & Studies, Assistant Executive Secretary; Missouri Air Conservation Commission

REGISTRATIONS AND CERTIFICATIONS

Licensed Professional Engineer – Arizona, Louisiana, Ohio
Board Certified Environmental Engineer

PROFESSIONAL SOCIETIES

Board Certified & Past Trustee, American Academy of Environmental Engineers & Scientists
Fellow Member & Past Vice-President, Air & Waste Management Association (A&WMA)
Member, Grand Canyon Section, A&WMA
Past Chairman, A&WMA Committees on Risk Assessment/Management, Regulations and Standards, Student Affairs, and Strategic Planning
Past Trustee, Institute of Professional Environmental Practice
Member, Tau Beta Pi

CURRENT COMMUNITY SERVICE ACTIVITIES

Board of Directors, and Co- Chair of the Science & Policy Committee, Audubon Arizona
President, Coconino County Industrial Development Authority
Board of Directors, Coconino County, Arizona, Pollution Control Corporation
Board Member, Advisory Board, Institute for Tribal Environmental Professionals

PUBLICATIONS AND PRESENTATIONS

Bill Auberle has extensive publications featuring topics on air quality and the effects of air pollution, hazardous waste management, environmental risk management, Native American environmental management programs, innovative environmental education, wind energy development, and energy efficiency.

Bill has developed more than 400 technical policy addresses as a public official, technical consultant and educator. He has been a frequent television and radio guest and participated in a weekly radio program for four years regarding Ohio environmental affairs.

In addition to his lengthy career at Northern Arizona University, Bill Auberle has been a member

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of the faculty of the University of Colorado School of Medicine, Community College of Denver and Dayton Engineering and Science Institute. His courses and lectures have covered such topics as air pollution engineering, environmental policy, environmental health, and environmental risk management.

Publications:

Smith, D. H., W. M. Auberle, P. West, *Valuing the Verde River Watershed: An Assessment*, 10th Colorado Plateau Book, University of Arizona Press, 2011.

Auberle, W. M., J. D. Eastwood, K. A. Wadsack, S. Williams (reviewer), *Economic Development Opportunities for Arizona in National Clean Energy and Climate Change Legislation*, The Landsward Institute, Northern Arizona University, March 2010.

Lynn, J. and W. M. Auberle, *Guidelines for Assessing the Potential Impacts to Birds and Bats from Wind Energy Development in Northern Arizona and the Southern Colorado Plateau*, Northern Arizona University, Ecological Monitoring & Assessment Program, February, 2009.

Acker, T. L., W. M. Auberle, J. D. Eastwood, D. R. LaRoche, A. S. Ormond, R. P. Slack and D. H. Smith, *Recommendations for Reducing Energy Consumption and Improving Air Quality Through Energy Efficiency on Native-American Lands*, Energy Sources, Part B, 1:223-234, 2006.

Cole, Henry S. and W. M. Auberle, *Final Report of Environmental Liaisons' Investigation of Georgia-Pacific Resins, Inc, Columbus, Ohio*, Franklin County Ohio Court of Common Pleas, November, 2005.

Acker, T. L., W. M. Auberle, J. D. Eastwood, D. R. LaRoche, A. S. Ormond, R. P. Stack and D. H. Smith, *Economic Analysis of Energy Efficiency Measures: Tribal Case Studies with the Yurok Tribe, the Confederated Salish and Kootenai Tribes of the Flathead Reservation, the Pasqua Yaqui Tribe*, American Indian Culture and Research Journal, Volume 20, Number 1, 2005.

Acker, T. L., W. M. Auberle, E. P. N. Duque, W. D. Jeffery, D. R. LaRoche, V. Masayeva and D. H. Smith, *Implications of the Regional Haze Rule on Renewable and Wind Energy Development on Native American Lands in the West*, WIND ENERGY, March 10, 2003.

Auberle, W. M., *Implementing Strategies to Reduce Emissions from Diesel-Powered Motor Vehicles in the Southwest*, Report to USEPA/OTAQ, 2002.

Auberle, W.M., Alvarez, V., Paramo, V., Leary, J. and Rios, G., *Design of a Workshop in Air Quality Management for Senior Managers in Mexico*, Proceedings of the 92nd Annual Meeting of the Air & Waste Management Association, 1999.

Ellsworth, P. M., Auberle, W. M., and Masayesva, V., *Update of Innovative Education and Training for Tribal Environmental Professionals*, Proceedings of the 91st Annual Meeting of the Air & Waste Management Association, 1998.

Auberle, W. M., Brinkerhoff, S. L., LaRoche, D., and Poleahla, A. *Attracting Native American Elementary School and High School Students to Environmental Careers*, Proceedings of the 91st Annual Meeting of the Air & Waste Management Association, 1998.

Bero, B. N., Masayesva, V., and Auberle, W. M. *An Innovative NAU/EPA Summer Internship Program*, Proceedings of the 91st Annual Meeting of the Air & Waste Management Association, 1998.

Auberle, W.M., Masayesva, V., and Ellsworth, P.M. *Innovative Education and Training for Tribal Environmental Professionals*, Proceedings of the 89th Annual Meeting of the Air & Waste Management Association, 1996.

Auberle, W.M. and Barber, W.C., "Knowing the Pros: New Certification Offered for Environmental Experts", Engineering News Record, Environmental Engineering, 1993.

Strategic Plan for the Year 2000, Air & Waste Management Assoc., 1992, by AWMA Strategic Planning Committee - W. M. Auberle, Chairman.

Auberle, W.M., Foreword to Managing Environmental Risks, APCA, 1988.

Reeser, W.K., Auberle, W.M., Mulford, E., Siek, R.D., Inventory of Hazardous Waste Generators and Sites on Selected Indian Reservations, Council of Energy Resource Tribes, 1985

Stewart, A.M., MacNamara, C., Auberle, W.M., Report to the Public - 1977, Colorado Department of Health, 1978.

Michaelson, D., Auberle, W.M., Buffington, P.D., Air Quality Report, Regional Air Pollution Control Agency, 1975. Wadsack, K., W. M. Auberle and K. English, *Economic Development Opportunities for Arizona in National Clean Energy and Climate Change Legislation*, Northern Arizona University, The Landsward Institute, March, 2010.

Auberle, W.M. and Hutchinson, D., Air Quality Report, Regional Air Pollution Control Agency, 1972

Auberle, W. M., Burkhart, W.T., Peden, D.B., Air Quality Report, Montgomery County (Ohio) Department of Health, 1970.

Auberle, W.M., Linsky, B., Effects of Air Pollution on Property Values, Air Pollution Control Association Annual Meeting, 1968.

Selected Presentations:

Professor Auberle has developed more than 400 technical policy addresses as a public official, technical consultant and educator. He has been a frequent television and radio guest and participated in a weekly radio program for four years regarding Ohio environmental affairs.

Professor Auberle has been a member of the faculty of the University of Colorado School of Medicine, Community College of Denver and Dayton Engineering and Science Institute. His courses and lectures have covered such topics as air pollution engineering, environmental policy, environmental health, and environmental risk management.

"Climate Change and Birds of Northern Arizona". Northern Arizona Climate Change Alliance and Citizens Climate Lobby, Flagstaff, 2017

"A Local Energy Movement?", Arizona Student Energy Conference, Flagstaff, 2016

"Energy, Environment & Engineering in the Southwest", American Council of Engineering Companies, Energy & Environment Committee, Denver, 2013

"Emissions Controls for the Navajo Generating Station", Northern Arizona Council of Governments – Regional Council, Flagstaff, 2011

"Emissions Controls for the Navajo Generating Station", Arizona County Supervisors' Association, Phoenix, 2011

"Wind Energy in Arizona", Panel Presentation at "Green Drinks", Sustainable Economic Development Initiative (sponsor), Flagstaff, 2011

"A Community Perspective on APS' Community Power Project", American Solar Energy Association Annual Conference, Phoenix, 2010

"Renewable Energy Opportunities in Higher Education", Air & Waste Management Association Annual Meeting, Calgary, 2010

"History of Native American Air Quality Management Programs", National Tribal Forum on Air Quality, Albuquerque, 2010

"Potential Impacts of Renewable Energy on Avian and Bat Populations in Arizona", Northern Arizona Audubon Society, Sedona and Flagstaff, 2009

"Renewable Energy Opportunities at Grand Canyon National Park", Climate Friendly Parks Workshop, Grand Canyon National Park, 2009

"Arizona Wind Power Development News", Regional Wind Energy Institute Annual Meeting, Salt Lake City, 2009

“Impacts of Climate Change on Indigenous Peoples of North America”, Annual Conference & Exhibition, Air & Waste Management Association, Detroit, 2009

“Challenges Facing Tribal Air Quality Programs”, National Association of Clean Air Agencies, Phoenix, 2008

“Climate Change Science and Strategies”, The 8th National Tribal Conference on Environmental Management, Billings, MT, 2008

“Principles of Geologic Sequestration of Carbon Dioxide”, The 8th National Tribal Conference on Environmental Management, Billings, MT, 2008

“Sustainability Initiatives at Northern Arizona University and the Institute for Tribal Environmental Professionals”, National Tribal Forum, Las Vegas, 2008

“Arizona Wind Energy Assessment”, Cochise County, Arizona Planning and Zoning Study Session, Bisbee, AZ, 2008

“Tribal Capacity and Support Needs for Tribal Water Management”, Round Table for Tribal Leaders on Impacts of Growth on Tribal Water Resources, Heard Museum, Phoenix, 2007

“Environmental Education of Indigenous Populations in North America”, with Patricia Ellsworth, Air & Waste Management Association, Pittsburgh, 2007

“Joint Air Toxics Assessment Project” with Patricia Mariella, Tribal Air Quality Forum, Smithsonian – National Museum of the American Indian, Washington DC, 2007

“Our Earth Is Warming”, Panel Moderator, National Tribal Forum, San Diego, 2007

“Birds, Bats & Wind Energy: Getting It Right”, Arizona Wind Working Group, Flagstaff, 2007

“Tough Choices Lie Ahead”, accompanying premier showing of *Running Dry*, Flagstaff Mountain Film Festival, Flagstaff, 2007

“Emerging Air Quality Challenges in the West”, Western Regional Air Partnership Tribal Forum, Albuquerque, 2006

“Health Impacts of Ambient Air Pollution on American Indians & Alaska Natives”, Nasbah Ben, Ellsworth, P. and Auberle, W., National Tribal Forum, Seattle, 2006

“Moving to Better Understand the Links between Air Quality and Tribal Health and Welfare”, Panel Moderator, National Tribal Forum, Seattle, 2006

“USEPA’s Clean Air Act Advisory Committee – A Perspective”, National Tribal Forum,

Red Wing, Minnesota, 2005

“Water is Life,” Keynote Address, University – Tribal Water Collaborative, Flagstaff, 2004

“Environmental Science and Engineering in the 21st Century”, European Project Semester, University of Copenhagen, Denmark, 2003

“Philosophy and History – The Legal Relationships among the Federal Government, the States, the Tribes and Local Governments,” Annual Conference, State Bar of Arizona, Environment & Natural Resources Committee, Phoenix, 2002

“History and Overview of the Institute for Tribal Environmental Professionals,” Canadian Council for Human Resources in the Environment Industry and Aboriginal Human Resources Development Council of Canada, Calgary, Alberta, 2002

“Collaboration between Northern Arizona University and the Northern Arizona Technology Business Incubator”, Northern Arizona Council of Governments – EDC, Flagstaff, 2002.

“Air Quality in the West,” Sigma Xi Seminar Series, Flagstaff, 2002.

“Environmental Research, Development & Education for the New Economy,” Arizona Board of Regents, Tempe, AZ 2001.

“Air Quality Management Training in the U.S./Mexico Border Region”, Southwest Center for Environmental Research & Policy Annual Conference, Rio Rico, AZ, 2001.

“Technical and Training Support for Tribal Air Quality Monitoring Programs”, National Tribal Air Quality Forum Series, Phoenix, 2000 and Miccosukee, FL, 2000.

“Design of a Workshop in Air Quality Management for Senior Managers in Mexico”, Annual Meeting of the Air and Waste Management Association, St. Louis, 1999.

“Protecting Western Vistas”, John T. Leary, Auberle, W. M. and Miller, J., Fifth Biennial Conference of Research on the Colorado Plateau, Flagstaff, 1999.

“Taller de la Calidad del Aire para Mandos Superiores”, The U.S. – Mexico Border Technical Conference, Southwest Center for Environmental Research and Policy, Las Cruces, NM, 1999.

“A Shared Environmental Doctrine for the West”, Annual Meeting of the Western Governors’ Association, Girdwood, AK, 1998.

“Clean Air Act Update”, Air Pollution Technology Workshop for Tribal Environmental Officials, Flagstaff, AZ, 1997.

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“Motor Vehicles and Air Pollution in the Western United States”, Western Governors’ Association Air Quality Initiative Workshop, Albuquerque, 1997.

“Winton Hills and Winton Place Air Monitoring Workshop”, Technical Outreach Services for Communities, Cincinnati, 1997.

"Careers in Environmental Sciences and Engineering", Associated Students in the Environmental Professions, Flagstaff, 1996.

"Report of the Public Advisory Committee", Grand Canyon Visibility Transport Commission, Grand Canyon National Park, 1996.

"Recommendations of, and Perspectives on, the Grand Canyon Visibility Transport Commission", 89th Annual Meeting, Air & Waste Management Association, Nashville, 1996.

"Innovative Education and Training for Tribal Environmental Professionals", 89th Annual Meeting, Air & Waste Management Association, Nashville, 1996.

"Report of the Grand Canyon Visibility Transport Commission", Grand Canyon Futures Forum, KAET-TV, Tempe, AZ, 1996.

"The Business Of Engineering", Hanzehogeschool, The Netherlands, 1995.

"Grand Canyon Visibility Transport Commission - Progress", Southwest Public Power & Water Symposium", Las Vegas, 1995.

"Environmental Issues on Indian Lands", U.S. Geological Survey Lecture Series, 1994.

"Introduction to the Grand Canyon Visibility Transport Commission", Quality Of Life Committee Forum, Arizona's Comparative Environmental Risk Project, 1994.

"Environmental Education in Arizona", AWMA - Grand Canyon Section, 1994.

"Industry's Role in Sustainable Development", Second Nature Workshop for HBCU/MI and Brazilian University Consortia, Clark Atlanta University, 1994.

"Industry's Role in Sustainable Development", Second Nature Workshop for HBCU/MICON Partnership Leaders, 1994.

"Public Advisory Committee to the Grand Canyon Visibility Transport Commission", AWMA and AGU Specialty Conference on Atmospheric Physics and Optical Measurements, Snowbird, UT, 1994.

"Career Opportunities in Environmental Engineering", Center for Applied Fluid

Dynamics Lecture Series, Arizona State University, 1994.

"Protecting Visibility on the Colorado Plateau", Center for Environmental Science and Education Lecture Series, NAU, 1994.

"Professional Credentials for Environmental Scientists and Engineers", Florida Environmental Expo, Tampa, 1994

"Cooperation Among State, Local and Tribal Air Quality Management Programs", STAPPA/ALAPCO Annual Meeting, San Diego, 1994.

"Professional Certification And Professional Ethics", Air & Waste Management Association, Annual Meeting, 1993.

"Grand Canyon Visibility Transport Commission's Public Advisory Committee", Air & Waste Management Association, Annual Meeting, 1993.

"Visibility Protection in Western Parks and Wilderness Areas", American Society of Civil Engineers - No. Arizona Chap., 1993.

"We're All Environmentalists, Aren't We?", AZCON '92, Embry Riddle University, 1992.

"AWMA - Strategy for the Year 2000", Annual Meeting of the Air & Waste Management Ass'n., 1992.

"Environmental Engineering for the College Freshman", Auberle, W.M. & S. L. Brinkerhoff, ASEE - PWS Annual Meeting, 1992.

"A Rational Approach to the Environmental Crisis", NAU Honor's Lecture, 1991.

"Environmental Engineering at NAU", American Society of Civil Engineers, No. Arizona Chapter, 1991.

"Environmental Risks in the Synthetic Organic Chemical Manufacturing Industry", Corporate Seminar, 1990.

"Risk Assessment in the Siting Process", (Technical Session Chairman) APCA Conference on Siting of Waste Management Facilities, St. Louis, 1988.

"Risk Management in the Environmental Impairment Liability Insurance Industry", Information Transfer Conference, U.S. Dept. of Interior, MMS, New Orleans, 1988.

"Environmental Risk Assessment", Seminar for Industrial Consortium, 1988.

"Effects of Acidic Precipitation on Materials and Visibility", (Technical Session Chairman), APCA's International Conference, 1988.

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"Acidic Precipitation: A Technical Amplification of NAPAP's Findings", Pittsburgh, 1988.

"Environmental Exposures", National Association of Mutual Insurance Companies-Roundtable, 1988.

"Perspectives on Acid Deposition Research", (Technical Session Chairman), APCA Conference, Chicago, 1988.

"A Critical Review of Risk Assessment in Air Toxics Regulation", International Workshop on Air Toxics, Air Pollution Control Association, 1987.

"Environmental Risks - Real and Perceived", International Corporate Seminar, 1987.

"Managing Environmental Risks", APCA Specialty Conference (Technical Program Chairman), Washington, D.C., 1987.

"Air Toxics: Where Are We Going?", Young Lawyers Section, Chicago Bar Association, 1986.

"Environmental Issues on the Navajo Reservation", Navajo Tribal Air Quality Workshop, 1986.

"Risk Assessment and Priority Setting", APCA-Ontario Section, 1986.

"The Use of Risk Assessment in Environmental Regulations", West Virginia Conference on the Environment, 1986.

"Environmental Risk Analysis", Chemical Industry Training Seminar, 1985.

"Hazardous Waste Issues on Indian Reservations", Council of Energy Resource Tribes, 1985.

"Viewpoints on Toxic Air Contaminants", APCA Forum on Air Toxics, 1983.

"Acid Rain in the Ohio River Valley", Rotary International, 1980.

National Motor Vehicle Emission Control Conference, General Chairman, 1979

"Environmental Issues in the Rocky Mountains", National Environmental Health Association, 1978

"Energy Development and the Environment", Western Interstate Energy Board, Environmental Committee, 1978.

"Colorado's Air Quality", Colorado Municipal League, 1978.

Conference of State Sanitary Engineers, Annual Meeting, General Chairman, 1978.

Testimony to U. S. Senate, Subcommittee on Environment, 1977.