

NATIONAL WATER RESEARCH INSTITUTE

City of Santa Barbara's Technical Advisory Panel for Subsurface Desalination Intake and Potable Reuse Feasibility Studies

Technical Advisory Panel Members – January 2016

Amy Childress, Ph.D. (Chair)

*Professor and Director of Environmental Engineering
University of Southern California (Los Angeles, CA)*

Amy Childress has more than 20 years of experience researching membrane processes for water treatment, wastewater reclamation, and desalination. Most recently, she has investigated membrane contactor processes for innovative solutions to contaminant and energy challenges; pressure-driven membrane processes as industry standards for desalination and water reuse; membrane bioreactor technology; and colloidal and interfacial aspects of membrane processes. Dr. Childress has directed research funded by federal, state, and private agencies. Current research projects are funded by US Environmental Protection Agency, the Strategic Environmental Research and Development Program, and California Department of Water Resources. Dr. Childress has received several awards including the Association of Environmental Engineering and Science Professors Outstanding Publication Award and a National Science Foundation CAREER Award, and has served as President of the Association of Environmental Engineering and Science Professors and an editorial board member for several journals. She holds a Ph.D. from the University of California, Los Angeles.



Martin B. Feeney, P.G., C.E.G., C.Hg.

Consulting Hydrogeologist (Santa Barbara, CA)

Martin Feeney has more than 34 years of experience as a hydrogeologist. Since 1997 he has worked as an independent consulting hydrogeologist, providing services to water agencies, private industry, and engineering firms. Previously he worked at several consulting firms including Staal, Gardner, & Dunne, Inc.; Fugro Wes, Inc.; and Balance Hydrologics, Inc., where he provided analysis of groundwater basins, developed groundwater flow and transport models, sited and designed municipal wells, developed injection wells/artificial recharge programs, and performed underground storage tank site assessment and remediation. Mr. Feeney's work in desalination has focused on development of subsurface seawater feedwater intakes, and his projects include: evaluation of subsurface intake feasibility for cities of Oxnard, Ventura, Marina and Monterey; design of the intake and reject disposal systems for the now-operational Sand City desalination facility; and development of feedwater wells on numerous Caribbean islands. He also is a member of the Hydrogeologic Working Group evaluating the proposed slant wells feedwater concept to support a 12 million gallon per day (MGD) desalination facility in the Monterey Bay area and previously sat on the



Independent Scientific Technical Advisory Panel that reviewed subsurface feedwater concepts for the proposed 50 MGD desalination facility in Huntington Beach, California, for the Coastal Commission and Poseidon. Mr. Feeney received a BS in Earth Sciences from the University of California, Santa Cruz, and an MS in Environmental Planning from California State University.

Heidi Luckenbach, P.E.

*Deputy Director/Engineering Manager
City of Santa Cruz Water Department (Santa Cruz, CA)*



Heidi Luckenbach is a civil engineer with more than 20 years of experience in water supply planning, drinking water treatment, and distribution. She has worked for the City of Santa Cruz Water Department for 17 years. As Deputy Director, she manages engineering services for maintenance, operation, and improvement of the water utility, including long-range water supply planning. Ms. Luckenbach previously served as Desalination Program Coordinator for seven years, during which she developed and implemented the work plan for the scwd2 Regional Seawater Desalination Project. Program elements included a seawater desalination pilot study, evaluation of intake alternatives, analysis of brine dilution, comparison of water supply alternatives, and engagement with regulatory agencies. The 2.5-million gallon per day supplemental water supply would serve several communities in North Santa Cruz County. Luckenbach received her BS in Civil Engineering from California State University, Northridge, and an MS in Environmental Engineering from University of California, Los Angeles. She is a Registered Civil Engineer in California, serves as Vice Chair of the Desalination Committee for the California Nevada Section of American Water Works Association, and was recently a board member for the American Membrane Technology Association.

Michael P. Wehner

*Assistant General Manager
Orange County Water District (Fountain Valley, CA)*



Mike Wehner has almost 40 years of experience in water quality control and water resources management. Initially, he spent 20 years with the Orange County Health Care Agency. Since 1991, he has worked for the Orange County Water District (OCWD), where he currently serves as Assistant General Manager. Among his responsibilities, he directly manages the Water Quality and Technology Group, including Laboratory, Water Quality, Research and Development, and Health and Regulatory Affairs Departments. In this capacity, he is involved with numerous aspects with OCWD's Groundwater Replenishment System (the nation's largest IPR project), including providing technical guidance on treatment and quality, as well as managing monitoring programs for the purification facility and receiving groundwater. He was also manager of OCWD's 8-year Santa Ana River Water Quality and Health Study, which evaluated the impact of using effluent-dominated river waters for groundwater recharge. At present, Wehner serves on the Advisory Group on the "Feasibility of Developing Criteria for Direct Potable Reuse" for the California State Water Resources Control Board, as well as expert panels on groundwater replenishment projects for both the Los Angeles Department of Water and Power (California) and Monterey Regional Water Pollution Control Agency (California). He received a Masters of Public Administration from California State University Long Beach and a B.S. in Biological Sciences from the University of California, Irvine

Eric Zigas

*Director, Bay Area Water Group
Environmental Science Associates (San Francisco, CA)*

Eric Zigas has more than 35 years of experience in water resources planning and management. Since joining ESA in 2002, he has focused on developing and evaluating water resource projects related to the supply, treatment and distribution of potable water, wastewater, and stormwater. He has worked on Raising Los Vaqueros Dam for Contra Costa Water District, and the development of a water supply solution for the Monterey Peninsula. His work in desalination includes the Coastal Water Project Environmental Impact Report and the Monterey Peninsula Water Supply Project DEIR. Previously Mr. Zigas spent 22 years at EDAW Inc., (now AECOM), a global firm that specializes in urban planning and design, landscape architecture, economics, and cultural and environmental services, where he worked on water policy assignments and long range water supply plans. He holds a degree in Geography from SUNY at Buffalo.



A 501c3 nonprofit organization, the National Water Research Institute (NWRI) was founded in 1991 by a group of California water agencies in partnership with the Joan Irvine Smith and Athalie R. Clarke Foundation to promote the protection, maintenance, and restoration of water supplies and to protect public health and improve the environment.