Craig Holloway is a licensed Professional Engineer (Texas) and the Industrial Water/Wastewater Practice Leader for URS' Austin General Engineering Office. After graduating from Texas A&M University with a B.S. Chemical Engineering in 1986, he joined Radian Corporation in Falls Church, Virginia. Mr. Holloway helped start the environmental portion of Radian Limited's Woking, England office before moving to Austin, Texas in 1991. Radian Corporation went through several owners before being acquired by URS Corporation in 1999.

Mr. Holloway is currently a Project Engineer, Team Leader, and Quality Management System Auditor in URS' Remediation Department in Austin, Texas. His responsibilities include evaluating technologies, providing conceptual and process designs, estimating capital and operating costs, coordinating detailed design, and providing startup, troubleshooting, and operator training services. Mr. Holloway's areas of experience include developing conceptual and process design packages for industrial water and wastewater, hazardous waste treatment, chemical and conventional weapon demilitarization, and alternative energy facilities.

SELECTED PROJECTS

Remediation

As the Project Engineer, Mr. Holloway helped design, operate, and evaluate a large pilot-scale implementation of electrical resistance heating (ERH) technology underneath an operating aircraft manufacturing facility in Fort Worth, TX. ERH heats soils in-situ to help volatilize and solubilize non-aqueous phase liquids (NAPLs), such as trichloroethylene, so that they may be removed using soil vapor extraction.

Industrial Water/wastewater

Mr. Holloway prepared the conceptual design for the Wastewater Treatment System upgrade at the Brayton Fire Training Field in College Station, TX. After the 1.1 million gallon per day (MGD) treatment system was installed, Mr. Holloway has provided on-going troubleshooting and design services as the wastewater system grows to meet the expanded services provided by ESTI/TEEX.

Demilitarization

As the chemical demilitarization facility in Anniston Alabama (ANCDF) was about to close, Mr. Holloway helped lead a project to repurpose the facility to disassemble and dispose of conventional weapons. As Project Engineer, he developed conceptual designs, costs, and schedules for the conversion while coordinating the closure under the existing RCRA permit.

Alternative Energy

Mr. Holloway was part of a Project Team that received a Phase I grant from the US Department of Energy to design a 0.5 ton/day algae to biofuels pilot plant. Together with Sunrise Ridge Algae and Ashgrove Cement Company, he helped develop the mass balances, major equipment specifications and

general arrangement for a facility that could capture CO₂ from kiln flue gas, grow algae in photobioreactors, harvest, and process the algae into biocrude and char materials.

Air Pollution Control

Mr. Holloway was Project Engineer for the design and installation of a sulfur-impregnated carbon adsorption unit capable of removing mercury from incinerator flue gas at a chemical weapons demilitarization facility in Tooele, Utah. The PAS Filtration System (PFS) was designed and constructed under a tight deadline so that TOCDF could fulfill their Treaty obligations on the agreed upon schedule.

COMMUNITY INVOLVEMENT

Engineers Without Borders-USA, Greater Austin Chapter, Responsible Engineer in Charge for Chicayá Water Project, Chicayá, Guatemala, 2014

Boy Scouts of America, Capital Area Council, Science, Technology, Engineering, and Math (STEM) Committee Member and STEM Adventure Campout Counselor, 2012 and 2013

RRISD Forest North Elementary Mentor of the Year, 2013

PUBLICATIONS

Holloway, C.S., "GRI Testing of ARI-LO-CAT II for the Direct Treatment of High-Pressure Natural Gas at NGPL's Kermit, Texas Site," GRI-96/0007, Final Report, Gas Research Institute, March 1996

Fain, Stephen, Craig Holloway, P.E., William Heath, Wayne Lundberg, George Walters, and Don Ficklen. "Electrical Resistance Heating Under an Active Industrial Plant." <u>Proceedings of Battelle Remediation of Chlorinated and Recalcitrant Compounds, The Second International Conference, Monterey, California, May, 2002.</u>

Peacock, Derek, Stephen Fain, Craig Holloway, P.E., Greg Beyke, P.E., and George Walters. "Electrical Resistance Heating Source Removal Under an Active Industrial Plant." Proceedings of Battelle Remediation of Chlorinated and Recalcitrant Compounds, The Fourth International Conference, Monterey, California, May 24-28, 2004.