Bio and Abstract

Bio: Brian Graham is a Vice President and Regional Wastewater Practice Lead in Florida for Carollo Engineers, Inc. He is an environmental engineer and operator with 34 years of experience encompassing advanced water and wastewater treatment, biological nutrient removal, reverse osmosis (RO) water treatment, biosolids management, master planning, wastewater process modeling and computer simulation. He has been involved in numerous RO and advanced water and wastewater treatment projects throughout the United States. For Suez (previously known as United Water, Inc.) he was the Engineering Manager and Process Engineer for the 42-mgd West Basin Water Recycling Plant in El Segundo, California. Mr. Graham also served as Suez' Senior Director of Operations for the West Division and as Director of Technical Assistance for Suez nationwide assisting with operation, engineering, process troubleshooting and facility startup activities.

- Education
  - BSE Environmental Engineering, University of Florida, 1986
- Licenses
  - Professional Engineer, Florida, Oregon, Texas
  - Civil Engineer, California
  - Environmental Engineer, Arizona
- Certifications
  - CA Grade III WWTP Operator

Abstract: Solids retention time (SRT) is a key activated sludge process variable that is calculated based on the aeration basin biomass inventory and the biomass wasting. The traditional SRT calculation relies on laboratory analyses to determine total suspended solids (TSS) concentrations in the mixed liquor and waste activated sludge (WAS). The hydraulic SRT calculation is based on a mass balance of TSS around the secondary clarifiers where the SRT is determined without having to measure TSS concentrations in the mixed liquor or WAS. This provides a higher level of accuracy because these concentrations are typically based grab samples that can result in high variability.

What will participants learn?
- limitations of hydraulic SRT control
- why TSS concentrations are not required
- how to calculate wasting rates using hydraulic SRT control
- see results of a full-scale implementation