Connecting the Dots

How to Address the Increasing Cost and Failures of Infrastructure and Treatment Systems Caused by Water Conservation

- Gary Miller, Deputy Director of Operations, WMWD (Moderator)
- Wyatt Troxel, EnerVention Strategist (Presenter)
- Jamie Ferro, Energy Management Expert, AESC (Presenter)
- Gerald Fejarang, PE, PinnacleART (Presenter)

Workshop Objectives and Outcomes – Opening a Peer-Level Dialogue

- The effect of water conservation on collection and treatment processes
- The impact of water conservation on energy use
- The impact of on-going climate change and regulation on process performance
- The increased need for asset reliability under conditions of uncertainty
- Selecting technology and control alternatives to beat the changing conditions
- The impact on organizational functions, economics and reputationss

Agenda

Opening Remarks – Gary Miller (15 min.)

- Introductions
- Workshop Format and Rules
- Issue Introduction – The downside of water conservation and the need for change in the wastewater industry approach to design, operations, maintenance and planning

A. What is happening to the physics, biology and chemistry of sewage as a result of aggressive water conservation – Wyatt Troxel (15 minutes)

B. The Cascade Effect of water conservation on treatment plant process performance, control and regulatory compliance– Wyatt Troxel (30 min.)

C. Impacts on assets and asset reliability – how to connect the dots between O&M Management and O&M staff through Reliability Driven Asset Management relative to the balancing of risks, lifecycle costs, and sustained compliance/performance - Gerald Fejarang (30 min)

D. Impact of water conservation on energy density of wastewater and treatment demands; establishing energy metrics and crafting a process-based energy management plan – Jamie Ferro (30 min.)

Roundtable Discussion and Interaction

A. **Real world examples of process upsets, increased energy use, design failures, and other issues – Panel (60 min.)**

B. **Process control, design, asset reliability alternatives, and technology solutions -** Q&A, (60 min.)

- New technologies
- Real-time monitoring
- Support systems
- Organizational challenges and responsibilities

C. **Follow-up discussion ticklers:**

- How long is the drought going to last?
- How do we plan for uncertainty (droughts and floods)?
- What metrics should we be including in analysis and planning?
- What does the range of solutions look like?

D. **Final Q&A/Wrap up (15 min.)**

Materials provided: Binder, PowerPoint presentation, case study handouts, worksheets, writing instruments, and notepads.