

**City of American Canyon
Wastewater Treatment Plant
American Canyon, California**

I. Respondents:

Nolan Garcia, Operator I
Jay Atkinson, Plant Operations Manager

II. Presenters:

Jay Atkinson, Plant Operations Manager
Hongwu Zhang, Operator III

III. Treatment Plant Characteristics:

- MRB Reclamation Facility
- 19,000 customers served
- 8 employees

IV. Innovation:

A. Description

Doing More with Less: How American Canyon Improved Treatment Process and Slashed Power Costs

B. Type of Innovations

- Increased use of Information Technology

- New treatment process
- Modification of workflow processes or classifications
- Optimization of existing resources

C. Motivation for Innovations

Potential influent flow increases along with higher industrial strength waste which could result in permit violations. Aging equipment at high replacement costs and lack of process control monitoring - Blue Ribbon committee mandated Phase I treatment plant improvements to bring facility up to permitted flow of 2.5MGD.

D. Barriers/Challenges

The Major challenges we were faced with were design and cost. We had to be innovative to come up with low cost solutions by thinking outside the box. Initial engineering Phase I estimates came in at \$14 million. Staff not certain phase I would work.

E. Benefits

We improved our U.V system, aeration control system, and the aeration basin. We save \$127K/year in power cost and are now able to run the plant using our standby generator. Improved reliability with redundant SCADA controls and monitoring.

V. Effect on Staff Training

Improvements have given operations staff more tools to predict, control, monitor, trend and develop operating procedures which can be duplicated

with successful results. Enhanced operator knowledge of power consumption and costs, nitrification, and de-nitrification processes. Ammonia and DO probes calibrations and importance of each. Teamwork!

VI. Lessons Learned

Team work! Bringing in outside help is a good thing. Not settling for only one solution when many potential suggestions were viable - Staying within a budget and time frame.

VII. Drought Response

Upgrading plant reclamation system with a 1.5 MG storage tank on site - this will allow for uninterrupted demand response and increased capacity. Citywide outreach included a reclaimed water fill station open to all citizens, and water-wise tools such as low-flow shower heads and hose nozzles.

VIII. Information Sharing

- We would be willing to host an on-site tour (45 minutes to an hour) that would include a demonstration or discussion of your innovation.
- We would be willing to visit another regional water/wastewater facility to provide a presentation on this innovation.

- We would be willing for a staff member from another water/wastewater utility to conduct a follow-up visit to our utility to learn more about our innovation.