

City of Modesto

Water Quality Control Facility

Modesto, California

I. Respondent and Presenter:

Timothy “Ben” Koehler, Utilities Plant Operations
Supervisor

II. Treatment Plant Characteristics:

- Water Quality Control Facility
- Wastewater Treatment/Water Recycling Facility
- 18 employees
- 210,000 customers served

III. Innovation:

A. Description

The City of Modesto has led the way in beneficial reuse of wastewater in the Central Valley with the Northern Valley Regional Recycled Water Program (NVRWP). This combines a state-of-the-art Tertiary Wastewater Treatment Plant with a unique NPDES permitted discharge location at the Delta-Mendota

canal. After partnering with the Del Puerto Water District and the City of Turlock, Modesto has become the first Tertiary Treatment Plant to discharge recycled wastewater into a federal waterway.

B. Type of Innovations

- New treatment process
- Inter-agency agreements or other administration changes
- Optimization of Existing Resources

C. Motivation for Innovations

A more stringent NPDES Permit, and interest from a local irrigation district that did not have reliable water supplies to meet their customer demands.

D. Barriers/Challenges

Identifying, applying, and receiving regulatory permits, aggressive schedule due to funding requirements, high-profile project, securing right-of-way, traffic, horizontal directional drill under the San Joaquin River, crossing Highway 33 and railroad, schedule delays due to storms, flooding, and nesting raptors.

E. What are the Benefits?

The City was able to remove effluent discharges from the San Joaquin River (an impacted water body) and build one of the largest beneficial water reuse projects in the United States, generating recycled water sales revenue for the City's wastewater fund.

F. Effect on Staff Training

The introduction of a more technical treatment process including BNR, MBR, and UV Disinfection has required staff to train on more advanced forms of wastewater treatment and become proficient in troubleshooting these systems. However, older infrastructure still exists, requiring previous knowledge and competencies to be maintained.

IV. DROUGHT-RESPONSE

The NVRRWP has helped local farmers maintain a small but consistent source of water to assist in "drought-proofing" of the Central Valley.