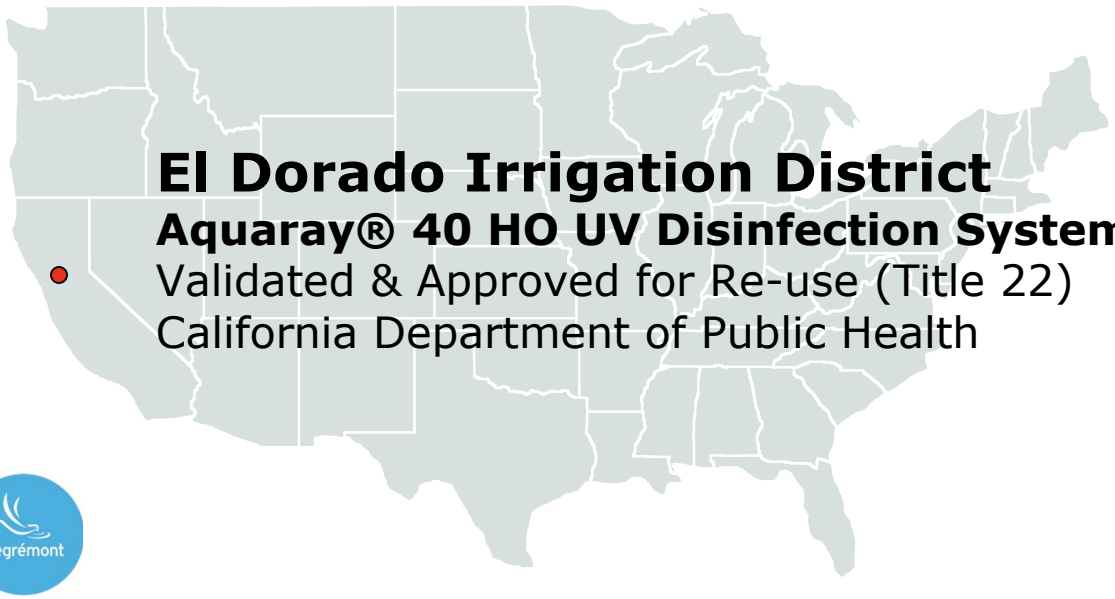
OZONIA

# CASE STUDY

## El Dorado Irrigation District
## Cameron Park, CA

Eco-Friendly | Safe | Economical | Energy Efficient



**El Dorado Irrigation District**

**Aquaray® 40 HO UV Disinfection System**

Validated & Approved for Re-use (Title 22)
California Department of Public Health

# El Dorado Irrigation District

## Product: Aquaray® 40 HO VLS Ultraviolet Disinfection

**Situation**

In 2003, the El Dorado Irrigation District in Cameron Park, CA received a State mandate to upgrade its existing Deer Creek Wastewater Treatment Plant to meet the increased demands in the area. The District was directed not only to meet the increased capacity but also to investigate the use of a UV disinfection as an alternative to the existing chlorine gas system to meet the effluent discharge limits of less than 2.2 mpn/100mL of total coliforms.

**Why Ozonia?**

The Districts selection of the Aquaray® 40 HO Vertical Lamp System technology as the system of choice required that several pre-qualification criteria had to be met. One of the key requirements was the Letter of Conditional Acceptance by the CA Department of Health Services' stating that the proposed system met all NWRI Guidelines for Re-Use applications. Timely receipt of this approval allowed Ozonia to participate in this project.

The second criteria was the lowest NPV (Net Present Value) of the proposed system based on capital, O&M and energy costs.

In addition to the low cost of ownership and the 'peace of mind' associated with a validated UV system, operating personnel are enjoying the many user friendly features of the Aquaray® 40 HO VLS system. The vertical lamp configuration allows easy and safe access to the UV lamps and ballasts for routine maintenance without exposure to the wastewater. The row-by-row activation of lamps for 'flow pacing' optimizes lamp life while assuring maximum power conservation.

**Implementation**

The tight project schedule was strictly maintained due to close collaboration between the Consulting Engineer (RMC Water and Environment), the Owner and Ozonia's Engineering and Start-up team.

**The Result**

As designed, the Aquaray® 40 HO VLS UV Disinfection System meets the effluent requirement of <2.2 mpn total coliform/100 mL based on a seven day geometric mean at a peak flow of 13.5 MGD.

**System Overview**

The installation is comprised of three (3) UV disinfection channels, each containing thirteen (13) Aquaray 40 HO VLS modules mounted 1 across by 13 in series including stand-by units.

As required by the California DPH, the UV equipment had to demonstrate full compliance of the NWRI guidelines for hydraulics as configured. Successful hydraulic testing was completed by the consulting firm Whitley Burchett & Associates and the resulting report gained CADPH approval. The system is now fully operational and consistently meeting its disinfection criteria.

**For the Future**

As a result of the successful UV installation at the Deer Creek Plant and the elimination of chlorine gas, the El Dorado Irrigation District is expanding its UV usage at other facilities.

Currently underway is the Phase III expansion of the El Dorado Hills WWTP which is also installing an Aquaray® 40 HO VLS UV System of similar capacity as the Deer Creek WWTP.

OZONIA

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