

# California Water Services Company, Porterville, California

## Nitrate and Perchlorate Contamination in a Public Drinking Water Supply.

In April 2006, Siemens Water Technologies, formerly known as USFilter, commenced a 10-year contract with the California Water Service Company for treatment of nitrates and perchlorate in the Porterville, California community water system.

California Water Service Company had recently acquired another water company who were responsible for this community drinking water system. The community has approximately 100 connections and is located in a remote agricultural section of the Central Valley. Annual well testing had shown levels of Nitrate at or near the Maximum Contamination Level (MCL) of 45 ppm NO<sub>3</sub>, also perchlorate was found in the groundwater at levels above the Public Health Goal (PHG) at 10 ppb. The nitrate contamination is suspected to be due to agricultural run off related to citrus production in the area. The source of the perchlorate contamination is still under investigation.

The water company placed the community on bottled water supply while they looked at several remediation technologies to clean up the well. They company investigated a number of treatment options, including a variety of ex-situ remediation treatments including biological and on site regeneration of resin. These were rejected because they produced a waste stream that could not be disposed of conveniently.

Siemens provided a unique treatment system where the water is first treated for removal of perchlorate using single use ion exchange resin and then nitrate removal with a traditional regenerable ion exchange media. However, since the water purveyor could not handle on site waste streams the Nitrate removal resin is regenerated off site. Siemens service-based solution provides off-site nitrate resin regeneration at

our local service branch. The resin is sluiced in and out of the fixed tanks using a closed process that ensures the cleanliness of the media and complies with State Health Department sanitization requirements for ion exchange resins.

## Significant Accomplishments

The Siemens service-based solution significantly reduces the amount of manpower that the water company needs to maintain for site operation.

The nitrate treatment system uses off-site regeneration at a Siemens facility that reduces overall operating costs for treatment of the nitrate and eliminates generation of any liquid or solid waste stream at the site.

The financial arrangement for this project allowed the water company to plan their costs over a 10 year period versus the capital investment necessary to install a new treatment system.



Facility	Municipal Drinking Water
Application	Nitrate and perchlorate removal
Technology	Ion Exchange
Scope of Services	System design Equipment start-up Personnel training Resin removal and replacement
Start Date	April 2006



Siemens Water Technologies North America Service Network

### North America Service Network

Our North America service network is backed by more than 80 offices staffed with certified technicians and applications experts who can solve your problems. In addition, Siemens Water Technologies provides response flexibility through either a lease or capital purchase option, and the company offers assured liability protection through environmentally safe waste destruction.

### Services Available

- Activated carbon supply, removal and reactivation services
- Filter media supply and removal
- Ion exchange resin supply
- Membrane supply and cleaning programs
- Parts and expendables
- Service contracts
- Temporary/emergency water systems

### Technologies Available

- Reverse Osmosis (RO) membrane filtration
- Conventional clarification and filtration
- Oil/Water separation
- Granular activated carbon adsorption
- Demineralization
- Inorganic metals removal
- Chemical addition

Siemens Water Technologies delivers cost-effective, reliable systems guaranteed for quality, safety, and compliance. Our trained service staff is available to make sure your systems is running at peak performance and to your specification. For your water treatment system, choose the partner that is committed to taking care of the world's water...and yours.

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