

City Of Fresno, California

Nitrate Contamination in a Public Drinking Water Supply

In June 2002, Siemens Water Technologies, formerly USFilter, commenced a two-year contract with the City of Fresno to treat nitrate contamination in multiple potable well sites.

In response to population increases and possible summer drought conditions, the City was forced to search for additional water sources and to consider bringing several known nitrate-contaminated wells back on line. These wells had been removed from service due to nitrate levels above the State of California maximum contaminant level.

The well sites are located in former farm areas or rural residential areas that were not connected to the City's publicly owned treatment works. Contamination is believed to be the result of a combination of septic system failures and/or agricultural runoff. A single source of contamination was not identified.

Siemens provided the City with two solutions to meet the different needs of the particular wells. Two of the sites required low-flow systems that could not be regenerated on site, since there were no sewer connections. Siemens' solution at these sites included the use of mobile equipment trailers loaded with anion resin in chloride form, which is regenerated off-site.

The other sites had significantly higher flow rates and were connected to the City's publicly owned treatment works. In this case, on-site regeneration of the anion resin provided the City with the most economical solution. All sites included blending pumps and nitrate monitors with fail-safe alarm shutdown.

During 2002, the City was able to operate the four wells making an additional 3,850 gpm of potable water during peak usage hours and an additional

2,100 gpm during all other hours. In 2003, the City is operating two wells making an additional 2,100 gpm, 24 hours per day, 7 days per week.

Significant Accomplishments

The City of Fresno award was the first municipal resin project completed on the West Coast.

The nature of the well water was extremely variable and required a solution that would meet the City's schedule and ensure that the nitrate level in treated water was constantly below California's maximum contaminant level. After receipt of award, Siemens had the first well operating within three weeks. The remaining three wells were operating and meeting specifications within four weeks of award.

Facility	Municipal Drinking Water Wells
Application	Nitrate removal
Technology	Temporary Mobile Treatment and Ion Exchange
Scope of Services	System Design Project Management Resin Handling Monitoring
Start Date	June 2002

PreFlex® units by Siemens with brine tank.





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.

Siemens
Water Technologies
2430 Rose Place
Roseville, MN 55113
800.525.0658 phone

© 2009 Siemens Water Technologies Corp.
ES-FREdr-PP-0809
Subject to change without prior notice.

PreFlex is a trademark of Siemens, its subsidiaries or affiliates.

The information provided in this literature contains merely general descriptions or characteristics of performance which in actual case of use do not always apply as described or which may change as a result of further development of the products. An obligation to provide the respective characteristics shall only exist if expressly agreed in the terms of the contract.