

State of California  
California Regional Water Quality Control Board  
Santa Ana Region

June 13, 2014  
Staff Report

ITEM: 07

SUBJECT: Resolution in Support of Request for Cleanup and Abatement Account Funds for the West Valley Water District's Wellhead Treatment System for Perchlorate in the Rialto Groundwater Management Zone

DISCUSSION:

The Cleanup and Abatement Account (CAA) Fund was created by Water Code Sections 13440 and 13441. Monies received from court judgments and the assessment of administrative civil liabilities fund the CAA. The management of the CAA is the responsibility of the State Water Resources Control Board (State Board). Monies from the CAA are available to cleanup a waste or abate the effects of a waste discharge and to remedy an actual or potential unforeseen public health threat. The State Board, the regional boards, or any public agency with the authority to cleanup or abate the effects of waste discharges are eligible for funding from the CAA. The State Board allocates monies from the CAA for special projects and for emergency projects on a case-by-case basis.

A number of drinking water supply wells in the Rialto Groundwater Management Zone operated by the City of Rialto and the West Valley Water District (the District) are polluted by perchlorate and other contaminants. Water from the Rialto Groundwater Management Zone is used for domestic supply within the area.

Rialto is a city of approximately 100,000 people and a majority of the city's population belongs to minority groups. In 2003, the State Board found that the communities' water supply has been significantly impacted by military and hazardous waste disposal practices of a number of manufacturing facilities that operated in the area. This information, together with demographic information showing a high percentage of ethnic families, led the State Board to conclude that the community should be identified as an environmental justice community. More recently, in 2013, the Santa Ana Watershed Project Authority (SAWPA) identified Rialto as a disadvantaged community.

The District is currently operating a fluidized bed reactor (FBR) system to treat polluted water from two wells (Rialto No. 6 and WWWD No. 11). The FBR is a biological treatment system that reduces perchlorate into chloride and nitrate into nitrogen. The FBR was funded, in part, by \$2.7 million from the CAA. Recently the Department of Defense has provided a grant of \$3.4 million to the District to construct and operate the first-ever, full-scale, fixed bed reactor (FXR) parallel to its existing FBR system. The FXR is also a biological treatment system and pilot studies have indicated that this system may be more efficient compared to the FBR system. The cost of the FXR reactor is \$3.4 million and the design and construction costs are in excess of \$3.0 million. The District is requesting a grant from the State Board of \$3.0 million from the CAA funds for the design and construction of the FXR reactor. The District is requesting that these grant funds be provided to them over a three year period. The FXB system would use the

same input stream as the FBR system. This setup would allow for a side-by-side comparison of the two systems. The information obtained during the operation of the two systems will provide a performance record that could be utilized to evaluate their efficiencies and to facilitate the use of these systems throughout the State.

The District has indicated that the proposed FXB construction project is shovel-ready, and could be in operation parallel to the existing FBR system within a year. It is appropriate that the CAA funds be utilized for support of this wellhead treatment project.

Support letters for the FXB project from the Department of Defense's Environmental Security Technology Certification Program, Congresswoman Gloria Negrete McLeod, and Senator Diane Feinstein are attached to this Staff Report.

**RECOMMENDATION:** Adopt Resolution No. R8-2014-0045 in support of the request from the West Valley Water District for \$3 million from the Cleanup and Abatement Account to support the wellhead treatment project for perchlorate.

State of California  
California Regional Water Quality Control Board  
Santa Ana Region

RESOLUTION NO. R8-2014-0045

In Support of the Request for Cleanup and Abatement Account Funds for the West Valley Water District's Wellhead Treatment Systems for Perchlorate in the Rialto Groundwater Management Zone, San Bernardino County

WHEREAS:

1. Sections 13440 and 13441 of the California Water Code established the State Water Pollution Cleanup and Abatement Account to be administered by the State Water Resources Control Board (State Board).
2. Section 13442 of the Water Code provides that grants to public agencies are available from the Cleanup and Abatement Account. The State Board may order monies to be paid from the Cleanup and Abatement Account to assist a public agency or a regional board to assist it in cleaning up waste or abating its effects on waters of the State.
3. The Rialto Groundwater Management Zone is beneficially used for municipal and domestic supply, in addition to other uses. A significant water quality problem currently exists in the Rialto Groundwater Management Zone, due to volatile organic compounds and perchlorate pollution. The perchlorate pollution has already impacted a number of municipal supply wells that are within the jurisdiction of the West Valley Water District (The District).
4. The State Board designated the Rialto area as an environmental justice community.
5. The U.S. EPA is addressing the plume of volatile organic compounds and perchlorate in the geographic area defined as Operable Unit 1 (OU1) in the Rialto Groundwater Management Zone, through an Interim Remedy for regional treatment of the plume under the National Contingency Plan.
6. Funding from the Department of Defense, in combination with previous State Board grants, has been utilized for the construction and operation of the combined wellhead treatment system for two of the impacted wells (Rialto No. 6 and WVWD No. 11). The treatment system utilizes a fluidized bed reactor (FBR) for biological treatment of perchlorate and nitrate. Biological treatment systems, such as the FBR, convert perchlorate to chloride and nitrate to nitrogen gas, thereby eliminating these contaminants from the environment, without producing a concentrated waste stream for disposal.
7. The Rialto FBR wellhead treatment system has been in operation since 2013 and it is needed to ensure that an adequate supply of drinking water is available to the public in the region, and to contain the pollutant plume.
8. Recently, the Department of Defense's Environmental Security Technology Certification Program developed and pilot-tested another biological treatment system, Fixed Bed Reactor or FXB. The results from the pilot studies of FXB indicate that the FXB system

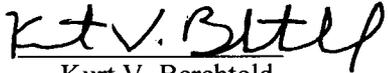
may be even more efficient than the FBR system for treating perchlorate and nitrate.

9. Currently there are no full-scale FXB systems in operation for treating drinking water. The Department of Defense has agreed to provide \$3.4 million to the District to construct and operate a full scale FXB system parallel to the FBR system. This would be the first-ever full-scale FXB treatment system and it would provide critical data to compare and evaluate the two systems for perchlorate and nitrate treatment.
10. The grant provided by the Department of Defense would only pay for the FXB reactor and does not cover the cost of design, construction, installation and source water. The District is requesting a grant of \$3.0 million from the Cleanup and Abatement Account to cover the cost of design, construction, installation and source water for the FXB system. The total cost of the project is estimated to be in excess of \$6.4 million. The District has indicated that the \$3 million grant from the State Board could be provided over the next three years. This approach would allow time for construction, and the District would be able to advance funds for the project, to be reimbursed by the grant funds over a three year period.
11. The local community will benefit by cleaning up its groundwater, by reducing reliance on imported water and by having a more reliable local water supply source.
12. The information obtained during the operation and monitoring of the FBR and FXB will provide a performance record that could be utilized to facilitate the use of such sustainable "green" technologies throughout the State and the nation.
13. The District has indicated that the proposed FXB construction project is shovel-ready, and could be in operation parallel to the existing FBR system in 2016.

THEREFORE, BE IT RESOLVED THAT:

1. The Regional Board supports the West Valley Water District's request for \$3 million from the State Board's Cleanup and Abatement Account Funds.
2. The Executive Officer is directed to forward a copy of this Resolution to the State Board.

I, Kurt V. Berchtold, Executive Officer, do hereby certify that the foregoing is a full, true and correct copy of a resolution adopted by the California Regional Water Quality Control Board, Santa Ana Region, on June 13, 2014.

  
Kurt V. Berchtold  
Executive Officer



March 11, 2014

Frances Spivey-Weber  
Board Vice Chair  
STATE WATER RESOURCES CONTROL BOARD  
Post Office Box 100  
Sacramento, California 95812-0100

Re: State Grant Proposal Submitted By  
West Valley Water District  
Rialto, California

Dear Board Member Spivey-Weber:

I understand that the West Valley Water District of Rialto, California, has submitted a proposal to the State Water Resources Control Board for a grant to help fund the acquisition and construction of a fixed-bed bioreactor to remove perchlorate contamination from ground water. I am writing to explain why the Department of Defense's Environmental Security Technology Certification Program (ESTCP) supports this project and will invest \$3.4 million towards completion of this facility.

ESTCP is DoD's environmental technology demonstration and validation program. The Program promotes the transfer of innovative technologies that have successfully established proof of concept to field or production use. ESTCP's demonstrations collect cost and performance data in order to identify and demonstrate the most promising innovative and cost-effective technologies that address DoD's high-priority environmental requirements.

The DoD is interested in technology that provides a cost-effective means to remove perchlorate from groundwater. West Valley Water District's recently completed fluidized-bed biological system will demonstrate a pioneering "green" technology, and constructing a fixed-bed reactor system nearby will greatly increase the value of the present system. Treating water from the same well or nearby wells with these two different systems will provide a unique opportunity to compare the effectiveness, sustainability, and costs of two cutting-edge systems side-by-side.

West Valley Water District is a reliable partner of ESTCP. We urge the State Water Resources Control Board to assist with the construction of this valuable project.

Sincerely,

Andrea Leeson, Ph.D.  
Deputy Director

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ESTCP Office  
4800 Mark Center Drive, Suite 17D08  
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Washington, DC 20515  
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Montclair, CA 91763  
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NegreteMcLeod.house.gov

CONGRESS OF THE UNITED STATES  
HOUSE OF REPRESENTATIVES  
GLORIA NEGRETE MCLEOD  
35TH DISTRICT, CALIFORNIA



Committee on Veterans' Affairs  
Subcommittee on  
Disability Assistance and Memorial Affairs  
Subcommittee on Health  
Committee on Agriculture  
Subcommittee on  
Conservation, Energy, and Forestry  
Subcommittee on  
Department Operations, Oversight  
and Nutrition  
Subcommittee on  
General Farm Commodities and  
Risk Management

March 11, 2014

Frances Spivy-Weber  
Board Vice-Chair  
State Water Resources Control Board  
Post Office Box 100  
Sacramento, California 95812-0100

Dear Board Vice-Chair Spivy-Weber:

I write in support of a grant application submitted by the West Valley Water District of Rialto, California, that would help fund the acquisition and construction of a fixed-bed bioreactor to remove perchlorate and nitrate contamination from drinking water.

This project is very important to the residents of the 35<sup>th</sup> Congressional District as well as the rest of the Rialto-Colton water basin. This is an environmental justice region because it is an economically depressed area of the State where people suffering from the Recession have also been forced to pay a surcharge of up to 18 percent of their water bills because of the perchlorate pollution in the groundwater.

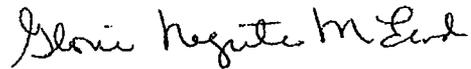
For over 12 years, I have worked in various capacities with members of the public and water purveyors in the Inland Empire to help resolve the perchlorate crisis. The problem is even more significant now in light of the drought emergency declared by Governor Brown. Local treatment systems must have the ability to provide clean drinking water in order to avoid the need to import water from other parts of the state.

The bioreactor technology that your grant will fund is also capable of removing nitrates and other contaminants in the central valley and other parts of California. Bioreactors hold the promise of a more sustainable and "green" solution to these pollution problems because they convert contaminants into safe end-products, avoiding the generation of waste streams that require disposal at landfills. Less waste also means lower clean-up costs.

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This is a plan I am truly in support of and trust the State Water Resources Control Board goes forward with the bioreactor project.

Respectfully,



Gloria Negrete McLeod  
Member of Congress

cc: Felicia Marcus, Board Chair, State Water Resources Control Board

DIANNE FEINSTEIN  
CALIFORNIA



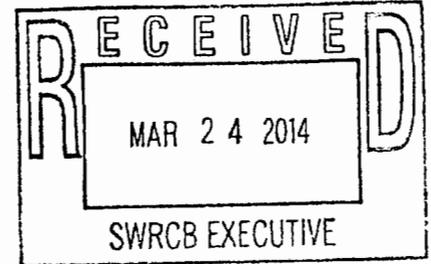
SELECT COMMITTEE ON INTELLIGENCE - CHAIRMAN  
COMMITTEE ON APPROPRIATIONS  
COMMITTEE ON THE JUDICIARY  
COMMITTEE ON RULES AND ADMINISTRATION

## United States Senate

WASHINGTON, DC 20510-0504

<http://feinstein.senate.gov>

March 17, 2014



Felicia Marcus  
Chair  
State Water Resources Control Board  
Post Office Box 100  
Sacramento, California 95812-0100

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Dear Chairwoman Marcus:

I understand that the West Valley Water District of Rialto, California, has submitted a proposal to the State Water Resources Control Board for a grant that would help fund the acquisition and construction of a second bioreactor to remove perchlorate and nitrate contamination from drinking water. I am writing to let you know how important I believe this project is, not only for the Rialto-Colton water basin and the State of California, but also for the United States government.

I have been working closely with water purveyors and members of the public in the Inland Empire to help resolve the perchlorate crisis since its inception approximately 12 years ago. The federal government has provided crucial assistance to West Valley Water District and other water purveyors to help ensure effective remediation of the contamination. Now, with the recent drought emergency declared by Governor Brown and other stresses on the State's water and energy systems, it is even more critical that local treatment systems have the ability to restore local supplies of drinking water in order to avoid the need to import water from other parts of the state.

The Department of Defense (DOD) has a considerable interest in seeing a second bioreactor at the West Valley Water District site. Because the DOD faces liability for perchlorate in many areas around the world, it is eager for West Valley Water District to operate two different bioreactor systems, side by side, treating water from the same source, allowing the DOD to prove the effectiveness and cost efficiency of both technologies. The information produced by this project could

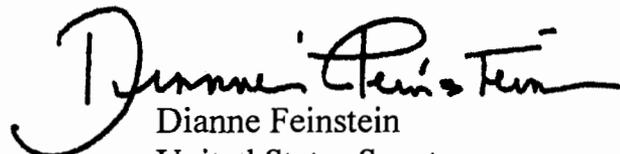
save the DOD hundreds of millions of dollars. This is why the DOD has already pledged \$3.4 million toward this project.

The possibility of deploying this bioreactor technology to remove nitrates and other contaminants in the central valley and other parts of California is another important aspect of this project. Bioreactors hold the promise of a more sustainable and "green" solution to these pollution problems because they convert contaminants into safe end-products, avoiding the generation of waste streams that require disposal at landfills. Less waste also means lower clean-up costs.

The people who live in the Rialto-Colton basin have been hard hit both by the perchlorate pollution and by the economic downturn. This area is an environmental justice region. A majority of Rialto's approximately 100,000 persons are members of minority groups, and many people in the region have been forced to pay a perchlorate surcharge on their water bills for years.

For all of these reasons, I would be very pleased to see the State Board support the bioreactor project. Thank you for considering my views.

Sincerely,

  
Dianne Feinstein  
United States Senator

DF:jp