

**STATE OF CALIFORNIA  
CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD  
CENTRAL VALLEY REGION**

RESOLUTION R5-2012-0400

REQUEST FOR CLEANUP AND ABATEMENT ACCOUNT FUNDS  
FOR  
IMPROVING REMEDIATION OF PCE IN TURLOCK GROUNDWATER,  
CITY OF TURLOCK, STANISLAUS COUNTY

WHEREAS, the Executive Officer of the California Regional Water Quality Control Board, Central Valley Region (Central Valley Water Board), acting in accordance with the authority delegated to her by the Central Valley Water Board, finds that:

1. Several dry cleaning facilities were formerly located near the downtown area of the City of Turlock (the "City") in Stanislaus County. The historic dry cleaning operations at those facilities resulted in releases to the environment of the dry cleaning solvent known as perchloroethylene (PCE). The PCE pollution has impacted the groundwater and has adversely affected the beneficial use of the groundwater as a municipal water supply. The City of Turlock relies upon groundwater for its municipal water supply.
2. In 1994, the City, the California Department of Toxic Substances Control, and the Central Valley Water Board entered into an "*Agreement for PCE Investigation and Removal in Turlock*", wherein the City agreed to investigate and remediate the PCE pollution and the parties agreed to work cooperatively to obtain funding for these activities.
3. In 2002, the State Water Board granted the City \$136,000 from the Cleanup and Abatement Account to pay for a remediation pilot study using injections of Hydrogen Release Compound into groundwater to enhance natural anaerobic biodegradation of the PCE<sup>1</sup>. The technology was found not to be cost-effective for the site, and the City assessed other remediation methods between 2003 and 2006.
4. In 2009, the State Water Board granted the City an additional \$459,000 from the Cleanup and Abatement Account to complete the investigation of the PCE groundwater pollution, to continue groundwater monitoring, and to install and construct a groundwater extraction and treatment system<sup>2</sup>. State Water Board granted the City an additional \$141,000 in 2009 to cover past costs incurred by the City for groundwater monitoring and assessment of remedial alternatives between 2003 and 2006.
5. In 2011, the City using the Cleanup and Abatement Account funds awarded in 2009, completed construction of a groundwater extraction and treatment system in the downtown area. Since startup of the system, the extracted groundwater has consistently contained concentrations of PCE over 1,000 micrograms per liter, and the City has removed over 95

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<sup>1</sup> State Water Resources Control Board Resolution No. 2002-0124

<sup>2</sup> State Water Resources Control Board Resolution No. 2009-0003

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REMEDICATION OF PCE IN DOWNTOWN TURLOCK GROUNDWATER  
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pounds of PCE from the groundwater. The progress of the cleanup to date is considered unusually successful and deserves continued support.

6. The City has requested additional Cleanup and Abatement Account funds to: 1) improve the groundwater remediation system so that it can pump groundwater at a greater rate, thereby increasing the PCE removal rate; 2) operate and maintain the groundwater extraction and treatment system; 3) verify the effect of the mass removal on the groundwater plume concentrations; and 4) abandon monitoring wells that are no longer necessary. Specific improvements to the remediation system will include the addition of vapor phase carbon treatment to the air stripper exhaust to allow for greater PCE mass removal without exceeding air emission permit limits. The estimated total cost of these efforts is \$343,366. The City of Turlock is requesting \$252,070 from the CAA to support the work, and will contribute \$91,296 worth of its own resources to the project.
7. The project work contemplated by the City's funding request is expected to take approximately three years to complete. The City will request Central Valley Water Board review and approval of all project work prior to implementation to ensure effective utilization of Cleanup and Abatement Account funds. In addition, Board staff will review monitoring and remediation progress reports, review invoices for reimbursement of costs, and conduct site inspections, phone calls and meetings as needed to keep informed on the progress of the cleanup. Central Valley Water Board staff expects to spend about 100 hours per year in the conduct of cleanup oversight for this project at an estimated cost of \$22,500 over the three year period.

THEREFORE, BE IT RESOLVED THAT the Executive Officer of the Central Valley Water Board, acting in accordance with the authority delegated to her pursuant to Central Valley Regional Board Resolution R5-2009-0027, supports the City of Turlock's funding request for an award of \$252,070 from the Cleanup and Abatement Account for the purposes set forth herein and additionally requests an award of \$22,500 from the Cleanup and Abatement Account to provide for Central Valley Water Board staff oversight costs of the cleanup.

Original signed by

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PAMELA C. CREEDON, Executive Officer

19 December 2012

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(Date)