The Honorable Ed Scott
City of Rialto
California

Statement of Support for H.R. 2316

Before

The Natural Resources Subcommittee on Water and Power

Tuesday
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Room 1324 Longworth House Office Building
Washington, DC

Madam Chairman and Members of the Subcommittee, thank you for the opportunity to come before you today and show my City's support for Congressman Joe Baca's bill, H.R. 2316, the Inland Empire Perchlorate Ground Water Plume Assessment Act of 2009. I am Ed Scott, a Council Member from Rialto, California. I not only speak for my residents in a City of 96,000 people but also approximately 400,000 residents who reside in the neighboring cities and are affected by chemicals which have polluted the Rialto-Colton Basin.

The City of Rialto relies on groundwater from the Rialto-Colton Basin, its most important water source, to deliver water to its residents, schools, hospitals, parks and businesses. The Rialto-Colton Basin was once an underground water source which was pristine and precious. But today it is a source of drinking water which has been contaminated by TCE, perchlorate and other possible harmful chemicals.

Impact of Contaminated Basin

Contamination of the Rialto-Colton Basin has had a severe impact on the City of Rialto and its residents. It has eliminated Rialto's best quality water supply as well as its cheapest; it has required Rialto to shift its reliance to water sources of lesser quality, requiring expensive treatment systems for the removal of contaminants; it has disrupted Rialto's ability to ensure that service to its current and future customers is reliable and uninterrupted 100 percent of the time, through normal, dry, and drought years; it has reduced or eliminated Rialto's ability to call upon its neighbors for emergency supplies, because their water supplies have been similarly strained; it has impaired Rialto in the flexibility of its use of existing facilities, effectively stranding some of them; and it has reduced the reliability of Rialto's overall water supply. As members of this Subcommittee know all too well, a clean, affordable, reliable water supply is the life-blood for a community like mine.

Perchlorate

Perchlorate, a salt used in manufacturing of missiles, ammunition, and fireworks, has been determined to affect thyroid functions of persons exposed to it. Perchlorate is especially dangerous to pregnant women, their fetuses and small children.

In adults, the thyroid helps to regulate metabolism. In children, the thyroid plays a major role in proper development in addition to regulating metabolism. Impairment of thyroid function in expectant mothers may affect the fetus and newborn and result in effects including delayed development and decreased learning capability. Impairment of thyroid function in nursing mothers may have similar effects on their newborn.

A December 11, 2006 National Institute of Environmental Health Sciences report titled "The Evaluation of the U.S. EPA's Preliminary Remediation Goal for Perchlorate in Groundwater: Focus on Exposure to Nursing Infants," concludes that the unborn child may be particularly vulnerable to perchlorate toxicity and that the U.S. EPA Preliminary Remediation Goal of 24.5 ppb should be evaluated in light of these exposures.

California has set a Public Health Goal of 6 ppb and has proposed a Maximum Contaminant Level for perchlorate in drinking water of 6 ppb. The United States Environmental Protection Agency has adopted a reference dose for perchlorate of 0.0007 milligram/kilogram-day, which leads to a Drinking Water Equivalent Level of 24.5 ppb. The reference dose and its corresponding Drinking Water Equivalent Level are respectively the recommended "to be considered" value and the preliminary remediation goal for perchlorate.

The State of Massachusetts, on the other hand, has set a maximum allowable level in its water at 2 parts per billion (ppb), virtually a non-detect level. Based on the fact that there is no agreement within the scientific community, let alone by lawmakers, on just how much perchlorate can safely be ingested, the Rialto City Council has adopted its "Zero Tolerance Policy." Under the City's policy, if a well tests positive for detectible levels of perchlorate, that well is shut down and taken out of service. Its water is not placed into the City's water system unless and until it is outfitted with treatment equipment and the water tests "non-detect" for perchlorate using state-approved testing methods. In this manner, no detectable perchlorate is allowed into the Rialto Water System and the citizens served by Rialto may rest assured that their water is safe.

Rialto Contaminated Wells

The perchlorate plume in the Rialto-Colton Basin is believed to be more than 6 miles long and about 1 mile wide, although the full extent of the plume is not known.
Seven of Rialto's thirteen wells have been removed from service from some period due to detections of perchlorate. The shutdowns of these wells have reduced Rialto's production capacity by nearly 48 percent. The City has lost its ability to have a back up source of water when emergencies occur, such as well failures, surrounding agencies

needing additional water, and not having enough water to meet future growth within our own service area.

Of Rialto's 13 production wells, seven have been removed from service for some period because of perchlorate contamination. The shutdown loss is around 12 million gallons per day (mgd), which exceeds the average daily pumping demand for all of Rialto's water customers. The Rialto Basin pumping capacity that has been currently lost to perchlorate contamination is around 12,000 to 15,000 acre feet per year.

The City has had to take other measures to ensure the residents and its customers needs will be met. The City spent $100,000 to construct an emergency tie-in with Riverside Highland Water Agency to provide an additional 2,000 gallons per minute of water to the City if needed. This replaces one well out of 7 impacted by perchlorate contamination.

Wellhead Treatment

Currently, there are two primary treatment technologies in the United States for removing perchlorate in water: ion exchange and biological remediation technologies. Rialto's wellhead treatment facilities use ion exchange.

While the City Council's "Zero Tolerance Policy" is the only responsible action we can take as elected officials, removing perchlorate from our groundwater is an expensive undertaking borne by the City and its ratepayers. For example, the installation of ion exchange treatment equipment costs approximately $1 million per water well, and it costs up to $500,000 per year to operate the perchlorate removal equipment at each well. Research is currently underway to develop other newer, cheaper technologies but they are not yet available.

Rialto has installed wellhead treatment facilities on three of its wells in and around the Rialto-Colton Groundwater Basin. It has increased its pumping in those wells, and left the other polluted wells out of service. Rialto is treating the water drawn from those wells until it tests "non-detect" for perchlorate, using state-approved testing methods verified through a state certified laboratory. The City has its wells tested on a monthly basis for perchlorate contamination at an average cost of $65 per sample which adds an additional $27,000 a year to its sampling budget. Thus far, the City has spent $28 million dealing with the perchlorate issue – an enormous sum of money for a working class community.

Wellhead treatment is a temporary and very expensive measure that has allowed Rialto to continue to meet demand on a short-term basis. Wellhead treatment does not come close to replacing what Rialto has lost due to the contamination of the Rialto-Colton Basin. The City spends an average of $335,000 per year for treatment cost for reginerable resin at one well site and needs to lease land next to the site to accommodate the large footprint needed to house the treatment vessels. The City is in the process of drilling an additional well to replace the loss of wells in the Rialto-Colton Basin at a cost of $1.5 million dollars. The City continues to look at other resources to provide additional water for the needs of its community such as recycled water to lessen the demands on potable water,

however, providing the irrigation water the large landscape areas are in need of. To expand the current system it is estimated to cost $5 million to contract and convey the recycled water to the high demand areas within the City.

The principal goals of Rialto's water department are to serve safe, affordable, and reliable water every day, including having sufficient redundancy in its system to meet all contingencies and to plan to meet anticipated demand over the next 20 years in normal, dry, and multiple dry years. The Rialto-Colton Basin is the linchpin of the City's water supply system. Because the Basin plays a central role in the City's long-term water supply planning, perchlorate contamination is not adequately remediated by the provision of wellhead treatment.

Sources of Contamination

We have learned that perchlorate contamination began in the 1940s through actions of the U.S. military, continued into the 1960s through the work of U.S. defense contractors, and was added to by firework companies until 1996. The City discovered high levels of contamination in our drinking water in 1996 and stopped all sources from further pollution. The State of California has set the maximum allowable level of perchlorate at 6 parts per billion -- Rialto has detected levels as high as 10,000 parts per billion.

Investigations to date have identified several areas where discharges of materials containing perchlorate salts have either occurred or are likely to have occurred in the northern section of the Rialto-Colton Basin. These sites include: the former U.S. military's Rialto Ammunition Backup Storage Point (RASP) bunker complex; the B.F. Goodrich/Black & Decker site; the San Bernardino County Mid-Valley Sanitary Landfill site; and an area occupied by firework companies, called the Stonehurts site, which consists of five acres located immediately south of the former RASP munitions bunker complex. These sites are believed to be the hot zones feeding the two identified perchlorate plumes in the Rialto-Colton Basin.

Basin Characteristic

Our aquifer is a very complicated one surrounded by earthquake faults and requires a comprehensive study to further understand how to deal with this problem and commit to an effective clean up.

The Rialto-Colton Basin is an elongated basin with the long axis oriented northwest-southeast, and lies within the Santa Ana River Watershed. The San Gabriel Mountains and Barrier J form the northwestern boundary of the Rialto-Colton Basin while the badlands area to the south forms the southeastern boundary. The Rialto-Colton Fault forms the southwestern boundary of the basin and impedes flow into the neighboring Chino Basin for much of the length of the basin. In the southern portion of the basin, the Rialto-Colton Fault no longer acts as a barrier to groundwater flow and groundwater migrates into the Chino and Riverside Basins. The northeastern boundary of the basin is formed by the San Jacinto Fault and Barrier E, which separates the Rialto-Colton Basin

from Lytle and Bunker Hill Basins. Groundwater in the Rialto-Colton Basin flows from the northwest to the southeast. In the southern part of the basin, groundwater flows westward towards the Chino Basin. If left alone, the perchlorate plumes will eventually migrate into these adjacent basins, threatening the water supply of countless of communities in Southern California.

Before a comprehensive cleanup plan can be developed, additional data must be collected at source sites and regionally. Although we have a substantial amount of information through EPA and other monitoring wells, information gaps still remain that must be resolved prior to finalizing and implementing an effective cleanup plan to restore the aquifer and protect the public's interest. As listed in a study released by the City in 2007 regarding the development of a comprehensive cleanup strategy, issues that still remain to be addressed are:

- The plume has not been fully delineated, either horizontally or vertically;
- The extent of commingling of the plume emanating from several source sites has not been completely characterized and modeled.
- The chemical migration rates within the contaminated zones have not been fully tested.
- It is not known what basin recharge rates will be necessary to support the treatment system.
- It is not known what is causing the recent surge in perchlorate concentrations in groundwater, whether significant sources are being flushed through the vadose zone, or if perchlorate is being remobilized.
- The impacts and extents of all source areas that contribute to the regional plume must be fully characterized.

The proposed study under H.R. 2316 will help us better understand these issues so that we can mobilize scarce resources in developing the most cost-effective cleanup strategy for the Basin.

Need for H.R. 2316

Perchlorate has been present in the Rialto-Colton Basin for over 65 years and the problem is getting worse, not better. The dilemma we face today is the plume of contamination continues to move southeasterly at a high rate of speed (possibly 2 feet per day) towards the County of Riverside and eventually Orange County. This frightening possibility could affect the water source for hundreds of thousands of people. The perchlorate plume will likely remain indefinitely in the Rialto-Colton Basin until removed through implementation of a clean-up and abatement plan.

In order for the cleanup to be effective, however, the plume must first be adequately characterized, and then additional wells, treatment facilities, possibly reinjection wells and similar other facilities and techniques will be required before the plume can be fully remediated. Ideally, the perchlorate-contaminated water plume can be pumped out of the ground, the water treated and then either used or reinjected back into the ground. In some cases removal of contaminated soil may be required. These questions will begin to be answered more fully as the plume is characterized more definitively. The study purpose of H.R. 2316 will help us answer these questions and put us in a position to resolve this once and for all. Only upon completion of such a study can we fully implement a plan to contain its movement and put a plan in place to effectively clean up this precious drinking water source.

In closing, I want to express my City's sincere thanks for the assistance we have received up to this point from Senators Feinstein, Boxer, Congressman Baca and, of course, Congresswoman Napolitano who has been a leader in water issues in California.

I stand ready to answer your questions.