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Lahontan Regional Water Quality Control Board

July 16, 2012

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RESPONSE TO APRIL 29, 2012 COMMENTS ON THE PROPOSED CLEANUP AND ABATEMENT ORDER FOR COUNTY SANITATION DISTRICT NO. 20 OF LOS ANGELES COUNTY AND THE CITY OF LOS ANGELES

President Nebeker,

Lahontan Regional Water Quality Control Board (Water Board) staff received your comment letter, dated April 29, 2012, regarding the March 22, 2012 proposed Cleanup and Abatement Order (CAO). On May 14, 2012, Water Board staff withdrew the proposed Cleanup and Abatement Order to address issues identified by Water Board legal counsel and others. On July 9, 2012, Water Board staff issued a revised proposed CAO (simply referred to as the CAO hereafter) for the Water Board's consideration at the September 12 and 13, 2012 Water Board meeting.

The CAO is fundamentally similar to the March 22, 2012 version, with exception of removing secondary responsibility status for the City of Los Angeles and of explicitly requiring continued operation of groundwater extraction wells in the nitrate hot-spot. As the changes in the CAO do not directly address the issues identified in your April 29, 2012 letter, Water Board staff have the following responses to your comments, using your letter's subject headings.

Current Status

Comment: *According to the CAO, nitrate concentrations in well MW-28 increased from 6.9 mg/l in 2006 to 8.7 mg/l [milligrams per liter] in 2011. Nitrate in the groundwater in this well increased almost 25% in less than 5 years. Considering ground water moves fairly slowly, this increase in nitrate is very alarming and suggests nitrogen is still in transit and moving downward in the soil with the potential to adversely affect larger portions of local ground waters. Our concerns are heightened because this well is upgradient and only about one mile away from the ranch of one of our Board Members.*

Response: As you state, nitrogen in soil at the District's reuse site likely continues to migrate downward to groundwater and will be affecting groundwater for a long time. Due to the Water Board's cease and desist orders on the District, and the associated storage and irrigation practice changes that resulted from those orders, the principal driving force for delivering that nitrogen to groundwater has been largely removed. These abatement actions are key to limiting potential nitrogen transport to the groundwater. The CAO includes requirements for assessing and addressing plume delineation, including requiring additional monitoring wells as appropriate, as well as for assessing and implementing nitrate plume containment.

Comment: *The plume delineation, containment and remediation methods employed by the District to-date have been only marginally effective. Contamination and degradation of additional usable ground water, compromising more ground water storage space, and adversely affecting one of the better groundwater recharge areas of the Antelope Valley, Littlerock Creek, are consequences.*

Response: Although there is pollution of the groundwater (nitrate as nitrogen greater than 10 mg/L) in the central area of the nitrate plume and degradation of groundwater in a larger area making up the plume, that pollution and degradation do not limit the groundwater for use by agriculture and do not materially limit the use of Littlerock Creek as a potential groundwater recharge area. Groundwater recharge through the Littlerock Creek wash could affect the plume migration, but the District and City of Los Angeles would still be responsible for containing and cleaning up the plume; additional containment efforts might be needed if recharge efforts utilize the wash.

Comment: *Antelope Valley is presently involved in a ground water adjudication. The Districts appear to be claiming water rights for the water they pump from the contaminated plume to irrigate alfalfa. This practice severely damages the ground water rights of farmers and all other ground water pumpers in the Valley.*

Response: Regarding the District's groundwater pumping and any potential water rights claims, the Los Angeles Superior Court, in the consolidated Antelope Valley Groundwater litigation, lead case BC 325 201, is the appropriate arbiter of such claims. As you are aware, the Lahontan Water Board has no authority in the matter of water rights.

Suggestions to Minimize or Eliminate These Problems

Comment: *In the past, the Regional Board seems to have been focused on source control at the expense of cleanup and resource preservation. These other concerns now must be made priorities. Therefore, for these reasons as well as the concerns mentioned here, the "preferred alternative" is unacceptable.*

Response: The Water Board had appropriately focused in the past on abatement of discharges that would adversely affect the groundwater, as addressing the source of the degradation is fundamental to protecting and restoring groundwater quality. But, the Water Board, in Cleanup and Abatement Order No. R6V-2003-056, also required the District and the City of Los Angeles to implement a plan to "… restore groundwater to background levels or other levels approved by the Regional Board pursuant to State Water Resources Control Board Resolution Nos. 68-16 and 92-49." CAO No. R6V-2003-056, along with Resolution No. R6V-2005-0010, required assessment of groundwater remediation options, including the time to achieve cleanup, the cost, and the effects of the remediation options on groundwater levels and overdraft.

The District's *Containment and Remediation Plan Supplement No. 4, June 2, 2009*, (Supplement No. 4) and related, previous documents present the District's required remediation assessment. The CAO that the Water Board will consider in September represents Water Board staff's evaluation of those documents and recommendation that the Water Board require implementation of the District's preferred (As-Built) alternative: application of water and nitrogen at agronomic rates and groundwater extraction at hot-spot areas with nitrate as nitrogen greater than 7 mg/L. Water Board staff believe this alternative provides the best balance of cleanup with the least effect on groundwater drawdown and decrease in aquifer storage and with a reasonable cost. The groundwater extraction associated with the preferred alternative represents about 0.4 percent of total annual pumping in the Antelope Valley or about 2.6 percent of the annual overdraft in the Antelope Valley.

Comment: *The CAO mentions that no monitoring wells are present down gradient of MW-28. As discussed above, since the plume appears to be moving under one of our Board Member's property, installing additional down gradient wells should be a priority.*

Response: As identified above, the CAO includes requirements for ongoing plume delineation evaluation and implementation, including installing additional groundwater monitoring wells where appropriate, such as downgradient from MW-28.

Comment: *The Regional Board should consider ordering District 20 to indemnify this family against impact from all Constituents of Concern in the District's effluent such as nitrogen, salts, caffeine, antibiotic compounds, etc.*

Response: Regarding potentially affected property owners and indemnification, neither Water Code section 13304 nor any other provision of the Water Code provides the Water Board with the authority to issue such an order to indemnify a third party. If the property owner's drinking water well is polluted by the District's discharge, the Water Board could require the District to supply an alternate water supply.

Comment: *Our Board Members are concerned that the Districts and the Regional Board are allowing sprinkler irrigation of undisinfected secondary effluent. Such effluent contains pathogenic organisms such as viruses, bacteria, etc. We understand that the respiratory system is the preferential pathway for these organisms to enter the human body and this practice represents a health risk to the public.*

Response: Contrary to your statement, the District's sprinkler irrigation practices at the Agricultural Site do not currently include the use of undisinfected secondary effluent. Since December 2011, tertiary disinfected effluent has been produced at the Palmdale Water Reclamation Plant, and that water, supplemented with groundwater extracted from the nitrate plume, is used for irrigation. Prior to that, since November 2005, secondary treated effluent was disinfected prior to use at the Agricultural Site.

Comment: *Most farmers feel the Districts should use their reclaimed water for ground water recharge. Creating another large-scale consumptive use such as alfalfa farming in a basin that some feel is overdrafted is not good public policy.*

Response: Using the District's reclaimed water for groundwater recharge is a possible option for the reclaimed water use, though the District's Waste Discharge Requirements and Water Recycling Requirements, Board Order No. R6V-20011-0012, would require amendment to allow that use. The costs for treating the water by reverse osmosis or similar prior to recharge would be significant, and dealing with the resulting treatment brine would pose certain challenges. The Water Board does not have the authority to require the District to use their reclaimed water for groundwater recharge. Use of the reclaimed water for agricultural production, such as is currently practiced, is an acceptable use of the water. The District included a recharge alternative in the alternatives assessment in Supplement No. 4. That alternative includes aggressive groundwater extraction, treatment of extracted groundwater through reverse osmosis, and re-injection into the aquifer. The cost for implementing that alternative is estimated to be more than 10 times greater than the recommended alternative ($129 million vs. $10 million net present value at 5 percent interest). The Aggressive Remediation alternative is estimated to remove 4.6 pounds of nitrate per $1,000 spent, compared to 23 pounds per $1,000 for the preferred alternative. The Water Board may consider that Aggressive Remediation alternative or some variation of it in the Board's deliberations on the CAO in September, though Water Board staff is recommending the As-Built alternative at this time. The CAO does include a requirement to assess other uses for groundwater extracted from the nitrate plume, such as substituting the extracted groundwater for groundwater used for irrigation by other entities.

Comment: *Some of our members are concerned that a few of the farmers who have used the Districts' reclaimed water have sold their products locally below the market. This is damaging the local farmers and they feel that a governmental agency, the Districts, should not be subsidizing some farmers to damage and create a nuisance for others. They feel that any products produced using the Districts' effluent should be marketed outside of Antelope Valley.*

Response: The Water Board has no authority regarding where the products produced with the reclaimed water are sold and for what amount. You should address this issue with the District.

Comment: *The State Water Resources Control Board Resolutions 92-49 and 68-16 should be strictly followed. The cleanup objective of background for all Constituents of Concern should be the target level. Cleanup should be accomplished by pump, treat and re-inject in order to protect the resource and address the concerns addressed above.*

Response: The Water Board is following State Water Board Resolutions 92-49 and 68-16 in evaluating cleanup options and cleanup levels. At this time, Water Board staff believe there is sufficient uncertainty due to the long cleanup times evaluated in all the proposed alternatives that establishing a final cleanup level, be it background or some value above background, is not appropriate at this time. As a result, staff recommends an interim cleanup level be established in the CAO at 7 mg/L nitrate as nitrogen. Water Board staff are recommending the As-Built alternative of hot-spot pumping, coupled with application of reclaimed water at agronomic rates, to address the nitrate in groundwater resulting from past discharges. Other potential constituents of concern aren't directly addressed by the CAO. Salts, or total dissolved solids (TDS), are elevated in the area of elevated nitrate concentrations in groundwater, although TDS does not exceed the 1,000 mg/L "Upper Maximum Contaminant Level Range" or "Consumer Acceptance Contaminant Level Range." Agronomic application of water and nitrogen at the reclaimed water discharge site will reduce loading of salts to the groundwater. The Districts have been required by other Water Board orders to participate in development of a salt and nutrient management plan for the Antelope Valley. The Water Board is not aware of significant issues associated with other constituents of concern in groundwater resulting from the District's discharges.

Required Fundamental Changes

Comment: *In contamination/degradation issues of this nature, emphasis should be placed on cleanup and resource protection as well as on source control. Also, this issue is an example of the Regional Board preparing Orders without a complete and comprehensive understanding of the factors that should be considered.*

Response: Water Board staff believe the appropriate balance and sequencing of abatement (source control) and cleanup has been applied through CAO No. R6V-2003-056, past cease and desist orders, and the current waste discharge requirements and water recycling requirements that the Water Board has imposed on the District. I think we all wish the process would have been quicker. The revised proposed CAO is intended to formalize implementation of the remedial alternative that staff believe is appropriate and that is currently being implemented. Staff feel they do have sufficient understanding of the factors that are appropriate to consider in establishing the CAO,

including the issues of overdraft, aquifer storage, plume delineation and movement, plume cleanup, and groundwater use and recharge that you identify in your comment letter.

Comment: *The Districts should be encouraged to change their culture. In my experiences, the Lahontan Regional Board, the Los Angeles Regional Board, State Department of Health Services, etc. have great difficulty dealing with the Districts. Although regulatory agencies sometimes become too stringent and do not use balanced judgment, the Districts need to be more concerned with the welfare of the community they are serving and not focused on battling regulatory agencies.*

In this regard, I believe it is of utmost importance to have the Board Members of District 20 present at the Regional Board Hearing on this matter. If need be, the subpoena power of the Regional Board can be utilized.

Response: Regarding the culture of the District, it is not appropriate for Water Board staff to respond to those comments. Staff feel there is no compelling reason to subpoena the District Board Members to attend the hearing on the CAO, as the District staff are generally supportive of the CAO and we are not seeking testimony from District Board Members.

Thank you for your comments and concern for protecting and restoring water quality in the Antelope Valley.

Sincerely,

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Supervising Water Resources Control Engineer
Manager, Regulatory Compliance Division

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