UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION IX
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San Francisco, CA 94105

APR - 5 2011

Amy Witherall
SCAO-7300
Bureau of Reclamation
Southern California Area Office
27708 Jefferson Avenue, Suite 202
Temecula, CA 92590

Subject: Draft Environmental Impact Statement for the Riverside-Corona Feeder Project, Bunker Hill Groundwater Basin, San Bernardino and Riverside Counties, California (CEQ #20110017)

Dear Ms. Witherall:

The U.S. Environmental Protection Agency (EPA) has reviewed the above referenced document. Our review and comments are provided pursuant to the National Environmental Policy Act (NEPA), the Council on Environmental Quality (CEQ) Regulations (40 CFR Parts 1500-1508), and our NEPA review authority under Section 309 of the Clean Air Act (CAA). Our comments are provided in accordance with your approval on March 16th of an informal EPA-specific extension to the comment deadline date from March 22, 2011 to April 5, 2011. We greatly appreciate the additional time to conduct our review.

The Bureau of Reclamation (BOR) proposes to provide funds for the Riverside-Corona Feeder Project (RCF), an aquifer storage and recovery project (conjunctive use), planned by Western Municipal Water District (Western). The project includes new groundwater extraction wells and a 28-mile water distribution pipeline with pump stations and a reservoir storage tank. The project is intended to improve Western's water supply reliability through managed storage, extraction, and distribution of local and imported water, using available groundwater capacity in the San Bernardino and Chino Groundwater Basins.

We have rated the Preferred Alternative -- Realignment Alternative with Additional Connections -- and the Draft EIS (DEIS) as Environmental Concerns - Insufficient Information (EC-2) (see the enclosed "Summary of Rating Definitions"). There are five large contaminated groundwater plumes in the San Bernardino Groundwater Basin and eleven plumes in the Chino Groundwater Basin. While EPA supports coordinated management of surface and groundwater resources, we are concerned with the potential direct and cumulative effects on groundwater quality, and the proponent's ability to ensure that replenishment and extraction of water does not result in adverse effects on drinking water supplies, the environment, other third party beneficial uses, or the remediation and management of contaminated groundwater plumes.

While this draft EIS proposes both a feeder line and approximately twenty new production wells, the information provided on well locations is very limited. EPA understands that the well drilling will be addressed in the permitting process, however, in light of the numerous contaminated groundwater plumes in the immediate vicinity of these wells, EPA has the following concerns: i) that the new production well might spread one or more of the contaminated plumes into a clean aquifer zone, thereby affecting existing clean production wells; and ii) that any potential contamination of previously clean wells will not be addressed until the level of contamination exceeds Drinking Water levels. The Final EIS (FEIS) should include additional information on the risk of contamination to existing groundwater or recharged imported water, and provide a clear process to address the above concerns.

EPA encourages local and regional efforts to enhance water supply reliability, provided proposed actions are consistent with a balanced water supply and demand strategy, based upon a reliable developed water supply, and do not have adverse effects on the environment or third party beneficial uses. Conjunctive use of surface and groundwater, whereby excess surface water is stored in the groundwater aquifer for later recovery when surface water resources are scarce, can be an effective means to ensure a more reliable supply. Accurate monitoring, accounting, and active management of the aquifer are key in preventing adverse effects. We recommend that BOR include in the FEIS a detailed description of the proposed operations, monitoring, accounting, and management procedures of the proposed RCF.

EPA advocates sustainable water supply management, which balances existing water supply with demand. Sustainable water use makes efficient use of currently developed water through conservation, reuse, and recycling; manages ground water to avoid long-term overdraft and reduction in quality; encourages users to diversify water management strategies; and promotes compatible multiple benefits of water use (for example, productive agriculture and wildlife habitat). Voluntary water exchanges and transfers that have no significant socio-economic or environmental impacts also have a role in ensuring a sustainable water supply. We recommend the FEIS describe current and planned demand-side management strategies to promote sustainable water use and a reliable water supply for this region.

EPA appreciates the opportunity to provide comments on this conjunctive use project. We are available to discuss our recommendations. When the Final EIS (FEIS) is released for public review, please send one hard copy and one CD to the address above (Mail Code: CED-2). If you have any questions, please contact me at (415) 972-3521 or contact Laura Fujii, the lead reviewer for this Project. Laura can be reached at (415) 972-3852 or fujii.laura@epa.gov.

Sincerely,

Kathleen M. Goforth, Manager
Communities and Ecosystems Division

Enclosures: Summary of EPA Rating Definitions
EPA's Detailed Comments

Cc: Jack Safely, Western Municipal Water District
Matthew H. Litchfield, City of San Bernardino Municipal Water District

SUMMARY OF EPA RATING DEFINITIONS*

This rating system was developed as a means to summarize the U.S. Environmental Protection Agency's (EPA) level of concern with a proposed action. The ratings are a combination of alphabetical categories for evaluation of the environmental impacts of the proposal and numerical categories for evaluation of the adequacy of the Environmental Impact Statement (EIS).

ENVIRONMENTAL IMPACT OF THE ACTION

"LO" (Lack of Objections)

The EPA review has not identified any potential environmental impacts requiring substantive changes to the proposal. The review may have disclosed opportunities for application of mitigation measures that could be accomplished with no more than minor changes to the proposal.

"EC" (Environmental Concerns)

The EPA review has identified environmental impacts that should be avoided in order to fully protect the environment. Corrective measures may require changes to the preferred alternative or application of mitigation measures that can reduce the environmental impact. EPA would like to work with the lead agency to reduce these impacts.

"EO" (Environmental Objections)

The EPA review has identified significant environmental impacts that should be avoided in order to provide adequate protection for the environment. Corrective measures may require substantial changes to the preferred alternative or consideration of some other project alternative (including the no action alternative or a new alternative). EPA intends to work with the lead agency to reduce these impacts.

"EU" (Environmentally Unsatisfactory)

The EPA review has identified adverse environmental impacts that are of sufficient magnitude that they are unsatisfactory from the standpoint of public health or welfare or environmental quality. EPA intends to work with the lead agency to reduce these impacts. If the potentially unsatisfactory impacts are not corrected at the final EIS stage, this proposal will be recommended for referral to the Council on Environmental Quality (CEQ).

ADEQUACY OF THE IMPACT STATEMENT

"Category 1" (Adequate)

EPA believes the draft EIS adequately sets forth the environmental impact(s) of the preferred alternative and those of the alternatives reasonably available to the project or action. No further analysis or data collection is necessary, but the reviewer may suggest the addition of clarifying language or information.

"Category 2" (Insufficient Information)

The draft EIS does not contain sufficient information for EPA to fully assess environmental impacts that should be avoided in order to fully protect the environment, or the EPA reviewer has identified new reasonably available alternatives that are within the spectrum of alternatives analysed in the draft EIS, which could reduce the environmental impacts of the action. The identified additional information, data, analyses, or discussion should be included in the final EIS.

"Category 3" (Inadequate)

EPA does not believe that the draft EIS adequately assesses potentially significant environmental impacts of the action, or the EPA reviewer has identified new, reasonably available alternatives that are outside of the spectrum of alternatives analysed in the draft EIS, which should be analysed in order to reduce the potentially significant environmental impacts. EPA believes that the identified additional information, data, analyses, or discussions are of such a magnitude that they should have full public review at a draft stage. EPA does not believe that the draft EIS is adequate for the purposes of the NEPA and/or Section 309 review, and thus should be formally revised and made available for public comment in a supplemental or revised draft EIS. On the basis of the potential significant impacts involved, this proposal could be a candidate for referral to the CEQ.

*From EPA Manual 1640, Policy and Procedures for the Review of Federal Actions Impacting the Environment.

U.S. EPA DETAILED COMMENTS ON THE DRAFT ENVIRONMENTAL IMPACT STATEMENT FOR RIVERSIDE-CORONA FEEDER PROJECT, BUNKER HILL GROUNDWATER BASIN, SAN BERNARDINO AND RIVERSIDE COUNTIES, CA., APRIL 5, 2011

Groundwater Quality and Management

Include additional information on the risk of contamination to existing groundwater or recharged imported water. The Chino Basin extraction wells were added to the RCF to alleviate San Bernardino Basin water agency concerns with potential effects of the RCF on management and protection of San Bernardino Basin groundwater. Of major concern is the potential for the RCF to change contaminant plume movement, shape, and direction through its recharging and pumping, causing the plumes to migrate beyond their control wells and further contaminate groundwater (p. 4.7-19). EPA has similar concerns, especially given the presence of five large contaminated plumes inside and outside of the San Bernardino Basin (Newmark and Muscoy , Norton Air Force Base , Redlands-Crafton , Burlington Northern and Santa Fe (BNSF) , and Rialto Colton), and eleven plumes in the Chino Basin (Chino Airport, California Institute for Men (CIM), General Electric Flatiron Facility, General Electric Company's Engine Maintenance Center Test Cell Facility, Kaiser Steel Fontana Steel Site, Mid-Valley Sanitary Landfill, Milliken Sanitary Landfill, Municipal Wastewater Disposal Ponds, Upland Sanitary Landfill, Un-named VOC Plume – South of the Ontario Airport, Stringfellow NPL Site).

Recommendations:
The Final EIS (FEIS) should include additional information on the risk of contamination to existing groundwater or recharged imported water as a result of RCF operations. A process should be described that clearly outlines how each well will proceed through the permitting process, including an impact analysis that shows that the location and operation of the well would not impact any existing contaminated plumes. The impact analyses should address the following concerns:

i) That the new production well would not spread any of the contaminated plumes into a clean aquifer zone. (Toward this end, a system of monitoring wells would need to be identified for each proposed well location. These monitoring wells would provide both water level data for the capture analysis and chemistry data to detect any potential contaminated plume expansion.)

ii) That any detection of contaminants in previously clean wells should be addressed as soon as possible, rather than waiting until such time as the contaminant levels exceed the Drinking Water Permit standards.

In addition, the following issues should be addressed: state whether imported water, recharged into portions of the aquifer formerly occupied by contaminated plumes, could be contaminated by residual volatile organic compounds (VOC), perchlorate, trichloroethylene (TCE), or other contaminates. Describe the probable end uses, applicable drinking water standards, and proposed treatment of extracted water. We recommend the FEIS include a description of the horizontal and vertical location of the contaminated plumes in the aquifers, and their relative spatial relationship to the "cones of depression" of probable extraction wells. If applicable, describe past or present effects

of recharge and extraction of SWP water in the San Bernardino Basin and Chino Basin. If the information was provided in the 2005 PEIR, we recommend providing a summary of this information and any conclusions in the current FEIS.

Describe the effectiveness and feasibility of proposed remedies for project-contaminated wells and groundwater. The DEIS describes possible remedies to be implemented if monitoring and well testing reveal project contamination of existing or proposed well sites and groundwater. These remedies include appropriate use of the contaminated water, blending the poor quality water with better quality water, choosing another water production and/or spreading area, carefully managing where wells are operated to prevent or delay contamination, and installing barrier wells and/or wellhead treatment (p. 1.0-33). EPA recommends the FEIS provide additional details on how the mitigation measures will be selected, prioritized, and implemented. This will likely depend upon the contaminants that require mitigation, but some specifics can be provided.

Recommendations:
We recommend the FEIS include a description of the process whereby a specific baseline mitigation plan would be developed for each new production well. This mitigation plan would serve to identify the appropriate performance measures for identification of contaminated plume migration, allow immediate notice of violation, and lay out the specific response actions to be taken to remedy any problems identified. A baseline mitigation plan (as existed for the Newmark Groundwater Superfund Site) will allow immediate response action, while further analysis and negotiation take place to address the issue in the long term. This plan should describe the effectiveness and feasibility of these remedies in achieving the required water quality for the planned water use. For instance, describe wellhead treatment technologies and other remedies that would be used to achieve acceptable levels of VOC, perchlorate, TCE, and other contaminants of concern in extracted water.

Address how the project will be made to comply with future changes to water quality and drinking water standards, including those applying to chromium and hexavalent chromium. In the reasonably foreseeable future, the water quality standards for chromium will likely be changed and it is possible that a drinking water standard for hexavalent chromium will be promulgated. The California Office of Environmental Health Hazard Assessment (OEHHA) has recently released a revised draft public health goal (PHG) of 0.02 parts per billion (ppb) for hexavalent chromium, which is also known as chromium 6. The current MCL for chromium is 50 ppb. Establishing a PHG is the first step in the development of a new or revised maximum contaminant level (MCL). Since the PHG is so much lower than the current MCL, a new MCL could have a large effect on the project in the future.

Recommendation:
Development of a new MCL is a lengthy process and takes years to achieve. The FEIS should account for how the proposed project will be made to comply with any future changes in this regard, and planners should track potential water quality standards that may affect future development.

The FEIS should describe the process whereby the permitting agency and project proponent will identify, characterize, and mitigate water quality impacts from "emerging contaminants" that may be found in groundwater and/or have new regulatory limits imposed on their concentrations in groundwater. Mitigating emerging contaminants is particularly problematic to evaluate when the hazard from the emerging contaminant is recognized by the water supplier but the regulatory machinery has not provided a reference standard for mitigation.

Some of the information cited in Section 4.7 (p. 4.7-25) in regards to the Newmark groundwater plumes is not correct. The DEIS states that the capture requirement for the Newmarks plume is 80%, when, in fact, the capture requirements were 90% for the Newmark plume, 85% for the Muscoy intermediate plume, and 80% for the Muscoy shallow plume. At the present time, the performance of the remedies in place results in 100% capture of all three contaminated plumes. The Newmark Groundwater Site has an Institutional Control in place to require that all new wells or new operating conditions go through a permitting process to prove that the existing EPA remedies would not be affected.

Sustainable Water Supply Management

Include a description of RCF operations, monitoring, accounting, and management procedures. The RCF proposes conjunctive use of surface and groundwater, whereby purchased imported surface water will be stored in local groundwater aquifers for later recovery when surface water resources are scarce (p. 1.0-1). Conjunctive use can enhance water supply reliability, provided there is accurate monitoring, accounting, and active management of the aquifer to prevent adverse effects.

Recommendations:
The FEIS should include a detailed description of the proposed operations, monitoring, accounting, and management procedures of the proposed RCF. Include a detailed response to the City of San Bernardino Municipal Water District's concerns regarding conjunctive use of the San Bernardino Basin Area, especially the need for a Basin Conjunctive Use Policy.[1] If applicable, include information regarding conjunctive use in the Chino Basin, and whether the Chino Basin is also in need of a Conjunctive Use Policy. The FEIS should describe any existing and/or proposed national, state, and regional groundwater requirements that may apply to the proposed project, such as an aquifer recharge obligation to leave a percentage of replenished water in the aquifer, and raw water treatment requirements.

Describe how the RCF complies with sustainable water management principles. EPA advocates sustainable water supply management, which balances existing water supply with demand. Water conservation, efficient use, and diversification of water supply sources are key components of assuring a long-term, sustainable balance between available water supplies,

[1] See March 4, 2011 Letter from Matthew H. Litchfield, P.E., Director, Water Utility, City of San Bernardino Municipal Water Department to Fakrhi Manghi, Senior Water Resource Engineer, Western Municipal Water District.

ecosystem health, and water supply demand. Conjunctive use is but one tool in providing water management flexibility and water supply reliability.

Recommendations:
The FEIS should describe how the RCF will meet the following sustainable water management principles:

- Give priority to conservation, water recycling, use efficiency, water trading, and other alternatives to new or expanded storage. Additional water diversions should be approved only in the context of, and consistent with, efficient and environmentally protective use of developed supplies.
- Base water quantities for imported SWP water on long-term sustainable supply. Take into account environmental requirements and potential third-party adverse effects.
- Properly price the water supply. The water supply -- particularly any newly developed supplies-- should not be under-priced. Cheap water supplies are a disincentive to use water efficiently, and misrepresent the true cost of developing new supplies.

To maximize benefits and project flexibility, we recommend Western work with all interested parties to evaluate and integrate available tools for enhancing water management flexibility, supply reliability, and water quality. Other tools to consider for implementation, in conjunction with the RCF, include conservation, appropriate pricing, irrigation and water use efficiencies, operational flexibilities, market-based incentives, water acquisition, voluntary temporary or permanent land fallowing, wastewater reclamation and recycling, and short-term temporary water transfers.

The proposed RCF should be designed to accommodate future shifts in water policy and consideration of in-stream and other public interest beneficial uses in long-term water resource planning.

Describe benefits and effects of water transfers between local water agencies and groundwater basins. The Preferred Alternative includes connections with other local water districts' distribution systems. These connections would facilitate the transportation of water from one water agency to another and one groundwater basin to another basin (p. 1.0-2).

Recommendation:
The FEIS should describe and evaluate the potential benefits and effects of water transfers between local water agencies and groundwater basins.

Include a more rigorous evaluation of growth inducing impacts. The DEIS concludes that the RCF will not induce growth because it would not directly increase population or economic growth. The DEIS implies that Western is responding to projected growth within its service area (p. 7.0-2). However, no evaluation or data are provided to demonstrate that the project would not remove obstacles to growth or provide water service to areas not previously served. We note that the Western Replenishment and Extraction Agreement with the San Bernardino Valley Municipal Water District (SBVMWD) states that Western, at its option, may assign and transfer

its right to extract such imported water to any plaintiff in the Western case, and such assigned right shall be in addition to any right that such producer may hold, and shall not be constrained by the injunctive provisions of the Judgment in the Western case (Western Judgment)(See p. 6 of Western Replenishment and Extraction Agreement with SBVMWD for the RCF project, Appendix D).

- ***Recommendation:***
  The FEIS should include a more rigorous evaluation of growth inducing impacts. We recommend including a detailed evaluation and data demonstrating that the RCF project would not remove obstacles to growth or provide water service to areas not previously served.