



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION IX

75 Hawthorne Street

San Francisco, CA 94105-3901

JAN 3 2001

Tim Salt
California Desert District
Bureau of Land Management
6221 Box Springs Boulevard
Riverside, CA 92507-0714

F3

Dear Mr. Salt:

The U.S. Environmental Protection Agency (EPA) has reviewed the Cadiz Groundwater Storage and Dry-year Supply Program Supplement to the Draft Environmental Impact Report/Draft Environmental Impact Statement (SDEIS), San Bernardino County, California (CEQ # 000358). Our review and comments are provided pursuant to the National Environmental Policy Act (NEPA), the Council on Environmental Quality's NEPA Implementation Regulations at 40 CFR 1500-1508, and Section 309 of the Clean Air Act.

The SDEIS provides additional information to the original Draft Environmental Impact Statement (DEIS), published in November, 1999. This information includes the Groundwater Monitoring and Management Plan ("Management Plan") which would govern the water storage and extraction operations in the affected groundwater basins, including the amount of indigenous groundwater that may be extracted over the 50-year operational life of the proposed project. The project proposed by Metropolitan Water District of Southern California (Metropolitan) involves conveying water from the Iron Mountain Pumping Plant on the Colorado River Aqueduct to a spreading basin in the Cadiz and Fenner valleys for storage of Metropolitan's water supplies during wet years. During dry years, the stored water, along with indigenous groundwater, would be extracted by wells and transferred to the Colorado River aqueduct for conveyance to Metropolitan's service area. The proposed project, the Eastern Alternative, involves construction and operation of a 35-mile pipeline east of the Iron Mountains and north through Cadiz Valley. The project also involves construction of spreading basins in Cadiz and Fenner valleys; power lines, pumping plants, and service roads along the pipeline; and an extraction well field in Fenner Gap. Metropolitan has requested a right-of-way from the Bureau of Land Management (BLM) for construction and operation of the pipeline.

F3-1

We have rated this SDEIS as EC-2 - Environmental Concerns - Insufficient Information (see the enclosed "Summary of Rating Definitions and Follow-Up Actions"). Our concerns are based on potential impacts to groundwater quality and quantity, as well as uncertainties in the Groundwater Monitoring and Management Plan (Management Plan) proposed in the SDEIS. We recommend additional information in the Final Environmental Impact Statement (FEIS) regarding groundwater monitoring and impacts. We also recommend that the FEIS provide

F3-2

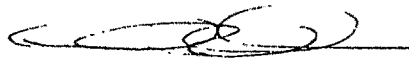
crucial information on the Management Plan, including protocols and criteria for selecting members for the scientific and decisionmaking work groups, as well as protocols for making recommendations, independent review, and decisionmaking.

F3-2

We appreciate the opportunity to review this SDEIS. Please send two copies of the FEIS to this office when it is officially filed with our Washington, D.C., office. If you have any questions, please call me at (415) 744-1584, or call Jeanne Geselbracht at (415) 744-1576.

F3-3

Sincerely,



David J. Farrel, Manager
Federal Activities Office

003227

Enclosures

- cc: Kathy Kunysz, Metropolitan Water District
Dave Spath, California Department of Health Services
Charles Fryxell, Mojave Desert Air Quality Management District
U.S. Fish and Wildlife Service - Carlsbad Field Office
Mojave National Preserve
Joshua Tree National Park
Robert Purdue, California Regional Water Quality Control Board, Colorado River Region
Peter Martin, U.S. Geological Survey, San Diego
Pat Port, Department of Interior, San Francisco

GROUNDWATER MONITORING AND MANAGEMENT PLAN

The Groundwater Monitoring and Management Plan (Management Plan) proposed in the SDEIS involves continuous monitoring and scientific evaluation over the life of the Cadiz project in order to adaptively manage the project to avoid significant impacts to environmental resources. EPA believes the adaptive management approach to operating the Cadiz Project is appropriate in light of the uncertainties regarding water quality and quantity issues here, and we commend the involved parties for proposing to take this approach. Adaptive management can be controversial and difficult to implement, however, particularly if the ground rules are not specifically spelled out ahead of time. Furthermore, Cadiz and Metropolitan have enormous financial interest in the project and make up the majority of parties sitting on the Technical Review Team (TRT) and Basin Management Group (BMG) if no federal agency is represented on these groups in a recommendation or decisionmaking role. The makeup of these groups and the protocols for scientific evaluation and decisionmaking, therefore, are extremely important to public confidence in the proposed Management Plan. We believe the members of the TRT must be highly qualified in their fields and selected for their expertise, not simply as representatives of their respective agencies or parties. We also suggest that recommendations by the TRT to the BMG be reviewed by an independent party not affiliated with a party represented on the BMG, and that the reviewer's comments/evaluation be submitted to the BMG along with the TRT's recommendations. It is imperative that the FEIS provide much more information regarding protocols and criteria for selecting TRT and BMG members, as well as protocols for recommendations by the TRT, independent review, and decisionmaking by the BMG. This information should also be specifically documented in the Record of Decision (ROD).

F3-4

The SDEIS provides some protocols for adaptive management and decisionmaking for the proposed project. Pages 3-70 and 71 state that the Interior Department's roles on the TRT and BMG have not yet been determined, but would likely not be more than an observer based on conflict of interest considerations. This conflict of interest for the Department is not at all clear in the SDEIS. The FEIS should indicate whether the BLM, U.S. Geological Survey, or National Park Service would sit on the TRT or BMG, and if not, specifically why not. In addition, if there would be a potential conflict of interest on the part of San Bernardino County related to enforcement of special use permits, this should also be identified and discussed in detail.

F3-5

The SDEIS (pp. 3-71) also indicates that if the BMG does not reach consensus resolving issues raised by the TRT, BLM would retain ultimate control over the enforcement of the terms and conditions of any ROW issues. The FEIS should clarify that BLM would retain ultimate control over the enforcement of ROW terms and conditions *regardless* of BMG consensus. That is, even if the BMG does reach consensus on an issue subject to the ROW, it is our understanding that

F3-6

BLM could still disagree and would retain ultimate control over enforcement of the ROW. It is also unclear who would make decisions on issues not covered by the ROW where consensus was not reached by the BMG. How would disputes be resolved and consensus reached? The FEIS should clarify this.

F3-7

Furthermore, undoubtedly there will be potential impacts and issues not covered under the terms and conditions of BLM's ROW. We believe the specific terms and conditions of the ROW are crucial information in the FEIS, as are any other issues that could arise that would be controlled solely by the decisionmakers on the BMG. A table in the FEIS would be extremely useful which lists all conditions of the ROW, potential impacts not subject to or covered by the ROW, action criteria for each potential impact, whether the mitigation measures are conditions of the ROW or ROD or would be determined by the TRT/BMG or other agency, and who would have ultimate decisionmaking authority (e.g., BLM, the BMG, the landowner, other agencies, etc.). This should be included in the FEIS.

F3-8

The SDEIS (pp. 3-70,71) indicates that the TRT would make annual recommendations to the BMG, including changes in operations of the Cadiz Project if any action criteria were exceeded. Action criteria are based on significance thresholds, and transgressions may warrant more timely recommendations and decisionmaking by the TRT and BMG, respectively. Therefore, the BMG and TRT should have the flexibility to call meetings as needed regarding recommendations for necessary operational changes.

F3-9

GROUNDWATER MONITORING AND MANAGEMENT

Apparently the groundwater flow and transport model relies on mass balance equations (SDEIS, p.3-15). Are equations informed by Darcy's law ever utilized? Density of solute is discussed with regard to this model. If there is a concern about chemicals with densities significantly greater than water, it would be relevant to design of the monitoring program, and should be stated in the FEIS.

F3-10

The issue of ambient groundwater quality adjacent to the project area (SDEIS, p.6-3) warrants further discussion in the FEIS. How does the Management Plan's suite of groundwater monitoring analytes reflect known or suspected contaminants that might be captured by extraction activities, including such contaminants as chromium VI? The FEIS should discuss the potential impacts of chromium VI in drinking water and what measures would be taken to ensure that federal and state maximum contaminant levels (MCLs) for chromium would not be exceeded. As a related concern, agricultural activities in the project area might suggest nitrates and total dissolved solids as contaminants of concern. Is the Management Plan capable of corrective measures addressing agricultural activities?

F3-11

F3-12

WATER RESOURCES IMPACTS AND MITIGATION

Any injection of fluids to hydrogeologic formations containing or connected to Underground Sources of Drinking Water (see 40 CFR Part 144.3) are subject to the federal Underground Injection Control regulations and the state water Code. Both federal and state water quality agencies implement regulations and permit programs for this activity, to ensure that the beneficial uses of ground water, most significantly as a source of drinking water, are protected. Based on the DEIS and the SDEIS, it is unclear if the project involves injection activities. The FEIS should include a discussion of the transport of aquifer recharge fluids through a typical project spreading basin inlet structure to the subsurface. Exactly how the inlet structures facilitate subsurface emplacement of fluids should be explained.

F3-13

The statement in the SDEIS (p.6-3) that introduced Colorado River water will be captured by extraction activities is not compelling without an evaluation of well field pumping and ambient groundwater hydrodynamics. This issue might be complicated by any significant temporal separation between mounding and pumping activities. The FEIS should provide a thorough discussion of this issue.

F3-14

It is suggested that pumping-induced mobilization of groundwater contaminants would involve only vertical migration from a lower aquifer. Why isn't the possibility of lateral migration being considered? This should be discussed in the FEIS.

F3-15

The SDEIS (p.6-4) mentions a maximum area of influence of project operations. The FEIS should identify the boundary criteria that are being used.

F3-16

AIR QUALITY MONITORING

According to the SDEIS (p. 3-18), analyses would be conducted under the guidance of the TRT to determine whether the project could contribute to lakebed dust mobilization, and if dust storms on the dry lake beds occur simultaneously with regional winds that are capable of transporting lakebed dust into a class I area. Please note that, for distances of over 50 km, the straight-line Gaussian models such as ISCST3 are not very reliable. Therefore, EPA recommends the use of the CALPUFF model. Analysis of air quality impacts in Class I areas is now typically done with CALPUFF. The FEIS should identify the model that would be used by the TRT for this purpose.

F3-17

SUMMARY OF EPA RATING DEFINITIONS

This rating system was developed as a means to summarize EPA's 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 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 must 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 CEQ.

F3-18

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.