United States Department of the Interior

NATIONAL PARK SERVICE
Mojave National Preserve
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Barstow, California 92311

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L3031 (MOJA-RM)

8 January 2001

Mr. James Williams
Bureau of Land Management
California Desert District
6221 Box Springs Blvd.
Riverside, CA 92507-0714

F4

Re: National Park Service comments on the Cadiz Groundwater Storage and Dry-Year Supply Program Supplement to the Draft Environmental Impact Statement

Dear Mr. Williams:

Mojave National Preserve is providing additional comments to you during this public comment period concerning the draft Supplement to the Draft Environmental Impact Report and Draft Environmental Impact Statement for the Cadiz Groundwater Storage and Dry-Year Supply Program ("Supplement"). As a cooperating agency under NEPA for this project, Mojave National Preserve has been involved in numerous meetings on the Supplement and has offered comments throughout the process. The goal of the parties involved in the process, including Mojave National Preserve, was to reach agreement wherever possible on the issues contained within the Supplement, particularly with respect to Section 3.0, the Groundwater Monitoring and Management Plan.

Over the past year, a great deal of progress and agreement among the parties was reached as to the Groundwater Monitoring and Management Plan. However, due to the press of deadlines in this process, not all issues were fully resolved by the parties, especially issues relating to possible impacts of the project on Mojave National Preserve. Two issues, in particular, have not been fully addressed in the Groundwater Monitoring and Management Plan: 1) the role of U.S. Bureau of Land Management vis a vis the Technical Review Team/Basin Management Group ("TRT/BMG"); and 2) air quality issues concerning Mojave National Preserve. F4-1

This letter will set out Mojave National Preserve's concerns and positions relating to these two outstanding issues. In addition, Mojave National Preserve is providing comments on various other aspects of the Supplement. These comments include issues or editorial changes which, in the view of Mojave National Preserve were not addressed, were not addressed adequately, or were resolved by the other parties contrary to the interests of Mojave National Preserve. Mojave

National Preserve is also providing comments on changes to the Supplement inserted subsequent to Mojave National Preserve's last review of one or more of the many draft versions circulating just prior to the final draft being sent out for public comment. Several times a new version of the draft came out before staff had adequate time to review the previous version. The time period you provided for review made it simply not possible for Mojave National Preserve and National Park Service (NPS) staff to review each and every version of the draft that preceded issuance of the final draft. Mojave National Preserve has now had the opportunity to review the final draft and makes the following comments. F4-1

GENERAL COMMENTS

The TRT/BMG Issue

Mojave National Preserve is concerned that the current Technical Review Team/Basin Management Group management structure for the project will undercut the federal government's ability to protect its lands and resources from impacts arising from the project. Although the TRT/BMG management structure was attractive on its face, further discussions within Mojave National Preserve as well as within the U.S. Department of the Interior have revealed many potential pitfalls in this management structure. As initially proposed, the federal government would have had only one out of four votes on the BMG. Decisions by the BMG concerning implementation of corrective measures, types of corrective measures and even the level of study triggered by a potential adverse effect would be out of the hands of the federal government. As noted in the final draft of the Supplement, there are also concerns about potential violations of the Federal Advisory Committee Act should the current TRT/BMG management structure be implemented.

F4-2

It is the position of Mojave National Preserve, that project management decisions affecting or potentially affecting federal lands or resources must be made solely by the federal government. Because this project will require a right-of-way grant from the U.S. Bureau of Land Management (BLM) in order for the project proponents, the Metropolitan Water District of Southern California (MWD) and Cadiz, Inc. (Cadiz), to transfer water across federal land to and from the project site and to store water beneath federal land, it is the position of Mojave National Preserve, that BLM should include as terms and conditions of any right-of-way grant that it issues to MWD and Cadiz sufficient authority for BLM to protect all federal lands and federal resources, including the resources of Mojave National Preserve. The terms and conditions of any right-of-way grant should provide for protection of Mojave National Preserve resources at a level that Mojave National Preserve is required by law to maintain. We urge BLM to work closely with Mojave National Preserve to ensure that decisions made by BLM concerning the project are protective of resources at the Preserve.

Mojave National Preserve continues to believe that the exchange of information and ideas among the technical staffs of the various parties involved in this project is essential to fostering sound management decisions protective of federal lands and resources. Mojave National Preserve strongly believes that the technical staff from the National Park Service and the United States Geological Survey should jointly provide technical advice to the BLM, as decision maker, either in the context of the TRT or through a wholly federal technical advisory group. It is essential that BLM require MWD and Cadiz to provide it with copies of all data generated by this project, so that federal technical personnel can make independent evaluations of the data. The type of

changes to the management structure contemplated here will likely require extensive revision of the Supplement to address these changes. F4-2

The Air Quality Issue

The National Park Service Air Resources Division (ARD) acknowledges that "placeholder" language provided to the BLM by Mojave National Preserve on September 29, 2000, has been appropriately incorporated into the document. The inclusion of several placeholder statements regarding air quality protection needs at Mojave National Preserve was necessitated by the apparent rejection (by project proponents and/or the BLM) of Mojave National Preserve recommendations provided in a letter to BLM dated September 12, 2000. F4-3

Mojave National Preserve and Joshua Tree National Park are appropriately identified in the Supplement as Critical Resources to be protected from potential adverse effects due to project operations. The ARD is most concerned about the inadequacy of the Groundwater Monitoring and Management Plan (Section 3.0 of the Supplement) to assure protection of these park units. Air quality comments herein include a restatement of previous Air Resources Division concerns not yet incorporated into the document with respect to protection of National Park Service air resources in these park units. F4-4

A significant aspect of the Supplement's inadequacy relates to the disparate treatment afforded Mojave National Preserve compared to Joshua Tree National Park. Other problems with the document include shortfalls in the technical adequacy of the Groundwater Monitoring and Management Plan (M/M Plan) to provide the necessary monitoring data and assessment criteria on which to base project management decisions, including implementation of mitigation or other corrective measures. F4-5

The National Park Service is alarmed by the Supplement's disparate treatment regarding resource concerns at Mojave National Preserve compared to Joshua Tree National Park. The air quality sections contain a substantially incomplete and inaccurate discussion of the Prevention of Significant Deterioration program and its classification scheme under the Federal Clean Air Act. It would be sufficient to state that Joshua Tree National Park is a PSD Class I area and that Mojave National Preserve is a PSD Class II area, without belaboring details of a program that has little or no applicability to either the project or NPS resource protection needs in this case. Given the apparent current uncertainty about the air quality status of the project area (i.e., attainment, unclassifiable or nonattainment for particulate matter), it is not clear if nonattainment area rules would potentially apply to air pollution sources in the area or if clean air rules under PSD might apply. In any event, a brief mention of the PSD classification of the park areas and short discussion on the NPS Organic Act resource protection mandate would be appropriate. As previously provided to the BLM by the Mojave National Preserve in a September 29, 2000, letter, the NPS has strong direction and an obligation to prevent impairment and protect resource values in all park units, notwithstanding any Clean Air Act considerations. The Organic Act, in part, charges the NPS to **"conserve the scenery and natural and historic objects and the wild life therein... in such manner and by such means as will leave them unimpaired for the enjoyment of future generations"**, 16 U.S.C. §1. This conservation mandate applies equally to both Joshua Tree National Park and Mojave National Preserve with respect to the Cadiz project's potential to adversely impact visibility, an important air quality related resource in these park units. In 1978 Congress, through the General Authorities Act, mandated that the National Park F4-6

Service manage, protect and administer all areas of the National Park System "in light of the high public value and integrity of the National Park System and shall not be exercised in derogation of the values and purposes for which these various areas have been established...", 16 U.S.C. §1a-1. F4-6

Mojave National Preserve was established because of its outstanding natural, cultural, historical and recreational values and afforded full legislative recognition and statutory protection. It is imperative that we continue to ensure this protection and non-derogation standard mandated by Congress. F4-7

There are numerous places in the Supplement that need revisions to satisfy NPS concerns regarding air quality as detailed below by subsection, but the issues are relatively few as discussed above. To address our monitoring concerns, project proponents need to **commit** to conducting all meteorological and air quality monitoring needed to document current conditions in the project area and at units of the National Park System that might be affected (Mojave National Preserve as well as Joshua Tree National Park). This monitoring would provide a necessary foundation for assessing compliance with air quality standards and resource protection objectives, including predicting and detecting changes related to operation of the Cadiz project. F4-8

Monitoring needs for both park units include: (1) meteorological data to determine wind speed and direction; (2) air quality monitoring -- both optical (cameras and/or other devices for measuring extinction) and particle (PM-10 and PM 2.5) to assess compliance with federal and state air quality standards and visibility protection objectives (including state visibility standard as well as NPS non-impairment policy objectives -- i.e., no perceptible impact greater than 5% change in extinction) at either Mojave National Preserve or Joshua Tree National Park; and (3) appropriate sampling and analysis of the composition of the particles in the lakebed to "characterize" the material so that it can be determined whether potential future changes in air quality are being caused by the operation of the project. In addition to the monitoring commitment, there must also be a commitment to implement mitigation measures if monitoring data (or analyses/calculations based on monitoring data) show: (1) violations of any state or federal ambient air quality standard, increment, or regulation; or (2) a perceptible impact on visibility (>5% change in extinction from baseline conditions) at either Mojave National Preserve or Joshua Tree National Park. F4-9

The specific changes to the Supplement's text recommended below would address many of the outstanding issues NPS has with the document. Additional integration of the above discussion on baseline monitoring data, assessment criteria, and mitigation "triggers" is needed, especially in the M/M Plan, to assure NPS needs are met. F4-10

SPECIFIC COMMENTS

Abstract: (No page number), paragraph 2: In the second sentence, it is stated: "The Management Plan would govern the water storage and extraction operations in the affected groundwater basins, including the amount of indigenous groundwater that may be extracted...". NPS recommends that this statement be revised, to clarify the role of the Management Plan. The role of the Management Plan is to ensure that project operations would not cause adverse impacts to "critical resources" in or adjacent to the project area. The Management Plan does not F4-11

govern all operational aspects of the proposed project; only those that may cause adverse impacts. For example, the Management Plan does not specify the relative proportions of Colorado River water and indigenous groundwater that Metropolitan may use. Furthermore, it does not directly specify the amount of indigenous groundwater that may be extracted, but only establishes protective measures in the event project activities trigger identified potentially adverse impacts. F4-12

NPS recommends that this paragraph be amended to read: "The Management Plan would **constrain** the water storage and extraction operations in the affected groundwater basins **to the extent necessary to ensure that there would be no adverse impacts to critical resources in or adjacent to the project area"** (recommended revisions in bold type). [**Note**: This same recommendation also applies to: (1) page 1-4, Section 1.2.2, right column, last paragraph; (2) page 1-10, first paragraph, last sentence; and (3) page 3-1, Section 3.1, first paragraph, second sentence.]

Page 1-1, Section1.1, first paragraph: The introduction does not explain that the project would draw out indigenous groundwater in quantities exceeding the amount of groundwater stored by MWD in the basin. The statement: "When needed, as in dry years, the stored water and indigenous groundwater would be extracted with wells and returned to the CRA for use within Metropolitan's service area" is vague. F4-13

NPS recommends that the end of the first sentence be changed from: "...a cost-effective groundwater storage and transfer program" to "...a cost-effective groundwater storage, **indigenous and stored water extraction,** and transfer program" (recommended revisions in bold type). This is a more accurate representation of the true nature of the proposed project, and is consistent with how it is referred to in other sections of this document (e.g. page 1-3, Section 1.2.1, first paragraph).

Throughout the document, either the term "extraction" **or** the term "withdrawal" should be used **consistently**, to avoid reader confusion. F4-15

The statement made in the last sentence is incorrect. The Management Plan is designed to ensure there are no "adverse impacts" as defined in Section 3.0 (the Management Plan); not "significant adverse impacts" as stated here and defined in Section 4.0 (CEQA Thresholds of Significance). These two terms have very different meanings. NPS recommends that the word "significant" be deleted. (Note: See correct wording in Section 3.1, pg. 3-1, first paragraph, where the term "adverse impacts" is used in similar context.) F4-16

Page 1-3, Section1.1 The terms, "potential adverse impacts," "adverse impacts," and "significant adverse impacts" have all been used in Section 1.1. However their use in this section does not seem to be internally consistent. Implementation of the Management Plan should prevent adverse impacts, not just significant adverse impacts. F4-17

Page 1-3, Section1.1, Last paragraph: Text suggests that the TRT/BMG will implement the Management Plan separate and apart from anything that BLM does with respect to the terms and conditions of the right-of-way. Although the details regarding the TRT/BMG need to be worked F4-18

out, it is likely that BLM will have a significant role in overseeing implementation of the Management Plan by virtue of the terms and conditions of the right-of-way grant. F4-18

Page 1-3, Section1.2.1 (2nd sentence) & Page 1-4; Section1.2.2 (last paragraph). Inconsistent use of the terms: "potential effects," "potential impacts" and "potential adverse impacts" on pages 1-3 and 1-4. They all appear to refer to the same thing. The term used in Section 3 is "potential adverse impacts" and should be used throughout the text. F4-19

Page 1-4, Section1.2.1, left column, first full paragraph, first sentence: NPS recommends that the phrase "conceptually located" in the first sentence be replaced with "specified the general location of." F4-20

Page 1-4, Subsection 1.2.2: The Supplement states that the Groundwater Monitoring and Management Plan "...is designed to ensure there would be no adverse impacts to Critical Resources resulting from Cadiz Project operations." The NPS agrees with this stated goal in the Supplement as to the intent of developing an M/M Plan, but the Supplement as it is written is internally inconsistent with that goal with respect to Mojave National Preserve. While many of the monitoring elements are in place to address resource concerns at Mojave National Preserve, the M/M Plan stops short of providing air quality monitoring at the park needed to ensure protection of the park unit's air resources from potential adverse impacts due to project operations. The monitoring plans for Mojave National Preserve and Joshua Tree National Park should incorporate the same protocols and assessment criteria, and revisions to the Supplement will be necessary to adequately address this issue. F4-21

Page 1-5, Section1.3.1, last sentence: NPS suggests that the sentence be revised as follows: "A comprehensive Mitigation Monitoring Plan that addresses all Cadiz Project mitigation measures **for all affected environment media** will also be prepared..." (recommended revisions in bold type). The suggested revision is intended to improve the reader's understanding of how the Management Plan and the Mitigation Monitoring Plan are related. F4-22

Throughout Section1.0, and indeed, the entire document: NPS suggests that, when discussing ground-water pumping, consistent language be used. Either the term "withdrawal" or the term "extraction" should be used consistently, to facilitate the reader's understanding. F4-23

Page 1-6, Section1.3.1.2: NPS requests that BLM include our bureau in the development of the "Mitigation Monitoring Plan" and allow NPS the opportunity to review the document prior to its completion. F4-24

Page 1-9, Section1.4.3: As stated in earlier letters from NPS to BLM (see letter dated July 31, 2000), a reasonable range of alternatives was never analyzed for the Cadiz project, nor has it been done in this SDEIS. The NEPA document is not complete without this evaluation. F4-25

Page 2-1, Section2.1, Last paragraph: Until the MOU is executed between San Bernardino County, Metropolitan and Cadiz, the EIS/EIR should not be finalized. NPS would like to review the MOU prior to its adoption to ensure that it is consistent with the Management Plan. The MOU should be an attachment to the final EIS/EIR. F4-26

Page 2-5, Figure 2-3, Geologic Map. The explanation for Figure 2-3 needs to be corrected as follows:

1. gr Pre-Cenozoic granitic rock needs a color code
2. pCgr Precambrian granite needs a color code
3. pCg Precambrian gneiss needs a color code
4. The vertical word "PRECAMBRIAN" needs to be fixed so that the "N" is on the same line with "PRECAMBRIA."
5. The symbol for Pennsylvanian/Permian rocks should be added to the explanation since units of these rocks are shown in the southeast portion of the Marble Mountains.

F4-27

Page 2-7, Section2.4: The statement referring to "low annual precipitation, ..." should be quantified, or at least further qualified by "**very** low..." (recommended revisions in bold type). F4-28

Page 2-8, Section2.4.3, 2nd paragraph: The statement that "snow accumulates at elevations above 5000 ft" needs to be quantified. How deep, in a typical year? F4-29

Page 2-12 to 2-13; Section2.4.7: It is the position of NPS that it is premature to make any conclusions about wind speed and direction. The data is too incomplete at this time because MWD wind data was only collected for 1-1/2 months during March and the first half of April, and the wind data from Jacobs engineering is unclear as to the number of days that the wind was measured at the Amboy weather station in 1991. Also, data from just one weather station in this large of an area may not be reliable in predicting wind speed and direction. F4-30

Page 2-8, Section2.4.3, paragraph 2, last sentence: NPS recommends that "...and produce very little precipitation" be added at the end of the sentence. F4-31

There should be a chart (or series of charts) showing frequency of rainfall events which result in surface flow in the washes. Many misleading statements are made (i.e. several mentions of "major precipitation events", "winter rainfall occurs in events lasting several hours to a day or more") which encourage the reader to believe that surface runoff and aquifer recharge is a frequent and substantial occurrence. F4-32

Page 2-20, first paragraph: The statement: "Under the guidance of the TRT, the characteristics of the carbonate rock aquifer would be further evaluated as part of the Management Plan" is misleading. The Management Plan does not provide for data collection or analysis that would characterize the carbonate-rock aquifer. The NPS recommends that this statement be deleted or the Management Plan be amended to provide specific provisions for evaluation of the carbonate-rock aquifer. F4-33

Page 2-23, paragraph 2, Last sentence: The suggestion of "alternative methods for estimating average annual recharge" came primarily from USGS, not the NPS and San Bernardino County. F4-35

Page 2-24, Section2.6.9: This section must be completely revised to include water quality standards and concerns regarding hexavalent chromium. Who will pay to remove this constituent from the Cadiz water? F4-36

Page 2-26, Section2.7: It is recognized that most, if not all, springs in these mountains have been degraded by historical use. The current conditions are such that assessment of flow is very difficult and any assessment would probably result in an underestimate of flow if a restored condition existed. NPS has begun the process of restoring these springs and hopes to see an increase in flow at these locations. F4-37

Page 2-27, Figure 2-14: Please add the boundary of Joshua Tree National Park and change title to "Location of Neighboring National Park Units and…". F4-38

Page 2-28, Subsection 2.8: The words "Class I area designated by the Clean Air Act (currently applies to Joshua Tree National Park)" in the last paragraph should be deleted and replaced with "Critical Resource area." Accordingly, this subsection of the Supplement would then be consistent with the goal of protecting all identified "Critical Resources" (i.e., Air Quality in Joshua Tree National Park, Mojave National Preserve, and BLM-Managed Lands – see subsection 3.1), not just a subset of those Critical Resources as it is now written. F4-39

Page 3-1, last paragraph: This paragraph states that the "structure and function" of the TRT and BMG will be developed at a later date. This is not acceptable. The public must have a chance to review and comment on the details of these groups. While the structure and function of the TRT and BMG may be elucidated in the Final EIS, the Final EIS does not provide an adequate forum for public review and comment. F4-40

Page 3-2, Section3.1: NPS strongly disagrees with the characterization of the TRT/BMG in the first paragraph on this page. As written, BLM would not have any say in implementation of the Management Plan if the TRT and BMG reach "consensus." As currently contemplated, neither NPS, USGS, nor BLM would have a voting role in the BMG or TRT. Therefore, the BMG may reach consensus every time and effectively preclude BLM from any decision making. Regardless of whether the BMG reaches a consensus, the BLM must have control through its right-of-way grant terms and conditions to regulate project operation and management to the extent necessary to prevent adverse impacts to federally managed resources, including but not limited to the defined "Critical Resources." F4-41

Page 3-2, Section3.1, 2nd paragraph: "Natural feature" needs to be defined. NPS is concerned that decreased flows from degraded springs could be used to assess "natural flows" from springs, when flow would otherwise have been higher if the spring had not been degraded. F4-42

Pages 3-1 and 3-2, regarding "…the structure and function of the TRT and BMG…": NPS recommends that a consensus-building step be considered for the TRT, because of the statement on page 3-2, first paragraph, third sentence, which reads: "In the event that there was not a consensus recommendation by the TRT, the BMG would attempt to resolve issues." With all due respect to the technical abilities of the members of the BMG, it is the TRT that should be attempting to resolve technical disagreements, not the BMG. F4-43

Page 3-2, last sentence, first column: A facet of the Management Plan is set forth that includes the phrase: "…as recommended by the TRT…". Given the statement cited above, does this now mean that such technical recommendations will be made by the BMG if consensus amongst the TRT is not reached? F4-44

Furthermore, similar language concerning recommendations and advice provided by the TRT is given in 122 other places throughout the Management Plan (Section 3.0). Additionally, it is stated that recommendations concerning technical issues would be made by the TRT *and the BMG* (italics added for emphasis) 19 of these 122 times. NPS recommends that the TRT, not the BMG, make technical recommendations. F4-45

Additionally, for monitoring features #10, 11, 12, and 23 (Section 3.5, pg. 3-30 to 3-32 and pg. 3-35), it is stated "If recommended by the TRT and the BMG...", certain monitoring would be implemented. Does this mean that some parts of the monitoring plan are optional, and may not be implemented? If so, when would such a decision be made? Would consensus of the TRT/BMG be required? F4-46

Page 3-2, first paragraph, last sentence: The reference to Section 3.4 should be to Section 3.5. F4-47

Pages 3-3 to 3-6, Table 3-1, "Proposed Monitoring Features and Frequencies": NPS recommends the following revisions to this table: F4-48

- Footnote No. 3, regarding S-Series Observation Wells location information, should be consistent with discussion in the text, page 3-19, right column, first full sentence.
- Feature No. 3, Pre-Operational Monitoring Frequency, Water Level: There should be a superscript "6" after information in box (to explain, as Footnote No. 6 does, the plan to measure water levels in shallow piezometers near the springs).
- Feature No. 3, Pre-Operational Monitoring Frequency, Water Quality: This should read "Semi-annually" instead of "One Time", pursuant to discussion in the text, page 3-39, last paragraph, first sentence.

Page 3-7, Figure 3-1: Mojave National Preserve boundary should be better marked. Include Joshua Tree National Park boundary. F4-49

Page 3-9, Section3.1.3: Until the MOU is executed between San Bernardino County, Metropolitan and Cadiz, the EIS/EIR should not be finalized. NPS would like to review the MOU prior to its adoption to ensure that it is consistent with the Management Plan. The MOU should be an attachment to the final EIS/EIR and incorporated by reference into the EIS/EIR. F4-50

Subsection 3.1.4, page 3-9: The first sentence needs to be revised to read "...protection of Critical Resources in or near the Fenner, Bristol, and Cadiz Valleys." This addition will make it clear that adverse "off-site" impacts related to project operations are also addressed by the M/M Plan, not just those which could occur in the immediate vicinity of the project. This change would be consistent with the above stated goal of the M/M Plan. F4-51

Page 3-11, Subsection 3.2: As referenced above, NPS air quality Critical Resources at Joshua Tree National Park and Mojave National Preserve are appropriately identified for protection under the M/M Plan. F4-52

Page 3-13, Subsection 3.2.4: The subsection contains a substantially incomplete and inaccurate discussion of the Prevention of Significant Deterioration program and its classification scheme under the Federal Clean Air Act. It would be sufficient to state that Joshua Tree National Park is F4-53

a PSD Class I area and that Mojave National Preserve is a PSD Class II area, without belaboring details of a program that has little or no applicability to either the project or NPS resource protection needs in this case. Given the apparent, current uncertainty about the air quality status of the project area (i.e., attainment, unclassifiable or nonattainment for particulate matter), it is not clear if nonattainment area rules would potentially apply to air pollution sources in the area or if clean air rules under PSD might apply. In any event, a brief mention of the PSD classification of the park areas and short discussion on the NPS Organic Act resource protection mandate would be appropriate. As previously provided to the BLM by the NPS in a September 29, 2000, letter, the NPS has strong direction and an obligation to prevent impairment and protect resource values in all park units, notwithstanding any Clean Air Act considerations. The Organic Act, 16 U.S.C. §1, in part charges the NPS to **"conserve the scenery and natural and historic objects and the wild life therein... in such manner and by such means as will leave them unimpaired for the enjoyment of future generations."** This conservation mandate applies to both Joshua Tree National Park and Mojave National Preserve with respect to the Cadiz project's potential to adversely impact visibility, an important air quality related resource in these park units. F4-53

Page 3-13, Section3.3: It is the federal government's view that the BMG should not be involved in the "resolution of issues" as a decision making body. That role properly rests with the BLM. However, the terms and conditions of the BLM right-of-way grant have yet to be worked out. F4-54

One goal of the monitoring and modeling is to arrive at an actual recharge rate. Once an accurate recharge rate is determined, the modeling performed by the TRT will be able to predict with some certainty long term affects this project would have on the hydrological system of the basin. This goal of the computer modeling efforts should be stated. F4-55

Page 3-14, Section 3.3.1.2, "Unsaturated Zone Flow and Transport Model", second paragraph: NPS recommends that reference to recommendations by the TRT and BMG be changed to recommendation by the TRT only. The BMG is not the best group to be making recommendations regarding unsaturated zone instrumentation. F4-56

Pages 3-15 & 3-16; Secs. 3.3.2 & 3.3.2.1: The goal of the monitoring and modeling should not be to evaluate impacts based on a range of recharge rates, but to arrive at an empirically derived number for the recharge rate that is capable of being modified as new data and modeling requires. Without an accurate recharge rate, it will never be possible to adequately evaluate the potential for adverse impacts. If a range of recharge rates is used to evaluate impacts, corrective measures and modifications to the project may never be required depending on which end of the recharge rate spectrum is used. F4-57

Page 3-16, Sections 3.3.2.1, "Evaluation of Variable Recharge Estimates and Long-Term Impacts" and 3.3.2.2, Model Refinement and Multi-Year Predictions: NPS recommends that reference to evaluations and recommendations by the TRT and BMG be changed to evaluations and recommendation by the TRT only. The BMG is not the best group to be making recommendations regarding water-resources model refinement or other highly technical issues. F4-58

Page 3-16, Section3.4.1: Air quality impacts will not be accurately predicted if a range of groundwater recharge rates is used. F4-59

Page 3-17, Section3.4.1: It is the position of the NPS that it is premature to make any conclusions about locating open-air nephelometers on the western and eastern edges of Bristol Dry Lake only, based on what appears to be incomplete wind direction and speed data. MWD's own wind rose diagrams for Cadiz weather station (see fig. 2-8) suggest that there is a strong wind velocity component blowing from the south-southeast. If this is true, dust from the lake beds is more likely to blow into Mojave National Preserve than if the prevailing high wind directions are from only the west (and NW, SW). The placement of the nephelometers is critical because they will determine whether the second stage of monitoring is necessary. During the second stage of monitoring, as currently stated in the M/M Plan, additional nephelometers will be placed on borders of Class 1 areas (and Mojave National Preserve) if the lake bed nephelometers indicate that dust is blowing toward these areas. If the lake bed nephelometers are placed to detect only winds originating from the west, they may not be placed correctly to detect dust from the lakebeds originating from southerly winds. An additional nephelometer may need to be placed on the north edge of Bristol lakebed. The data are too incomplete at this time because MWD wind data was only collected for 1-1/2 months during March and the first half of April, and the wind data from Jacobs engineering is unclear as to the number of days that the wind was measured at the Amboy weather station in 1991. Also, data from just one weather station in this large of an area may not be reliable in predicting wind speed and direction. F4-60

Page 3-18, paragraph 2: This paragraph implies that some degradation of the air quality of Mojave National Preserve (Mojave) would be allowed during the Cadiz project. This is not acceptable to NPS. It is Mojave National Preserve's statutory duty under the 1916 Organic Act not to allow impairment of its resources. F4-61

Page 3-18, Section3.4.2: This subsection is unacceptable and too restrictive in scope, as it currently disregards air quality monitoring at Critical Resources other than Joshua Tree National Park. To ensure the M/M Plan adequately addresses air quality impacts to other important receptors, the title of the subsection should be revised to read "Air Quality Monitoring at Critical Resource Areas." This change is necessary to assure the M/M Plan can meet its intended goal to protect Critical Resources. F4-62

Subsection 3.4.2, page 3-18: The last sentence of the first paragraph states that the Technical Review Team (TRT) may recommend discontinuing meteorological monitoring if data show there is a potential for transport of emissions from the project area to a Class I area. The NPS strongly disagrees with the intent of this statement. First, referring to the previous comment above, "Class I area" should be deleted and replaced with "Critical Resource area." Secondly, and very importantly, in order to ensure that the relationship between project area emissions and impacts on Critical Resource areas is documented, meteorological monitoring should continue for the life of the project if it is demonstrated through baseline monitoring that there is a potential for transport from the project to important receptors. If baseline meteorological monitoring demonstrates no transport occurs from the project area to Critical Resources, then it may be appropriate for the TRT to recommend discontinuance of that monitoring. F4-63

Page 3-18, Section 3.4.2, first paragraph: The reference to Section 3.5.4 should be changed to Section 3.6.4. F4-64

Page 3-19, right column, second paragraph (Feature 1): The reference to Section 3.4 should be changed to Section 3.5, and the location within Section 3.5 where this information is contained should be specified. If it is Feature 20 on page 3-35, then the text on page 3-35 should be amended to include reference to dual-induction logging in S-Series wells. Currently, it is only included therein for some of the cluster wells at the dry lakes. F4-65

Pages 3-20 to 3-25, Table 3-2, "Summary of Monitoring Features and Protocols": NPS recommends the following revisions to this table: F4-66

- Footnote b, regarding S-Series Observation Wells location information, should be consistent with discussion in the text, page 3-19, right column, first full sentence.
- Feature No. 1, Monitoring Protocol, Water Quality, Reference to Appendix D, "Water Quality Analytical Protocol", page D-1-1, Table D-1, proposed analytical suite for groundwater sampling: Table 3-2 cites Appendix D for water-quality sampling information, but the discussion in the text, Section 3.6.1, pages 3-39 and 3-40, includes no groundwater-quality sampling schedule for the S-Series wells. NPS recommends that semi-annual water-quality sampling during the pre-Operational period, including isotopic sampling, be considered for the S-Series wells, to help determine the age and source of the groundwater (as is proposed for sampling from springs). Note: If this recommendation is accepted, the associated information would need to be added to Table 3-1, in addition to the text on page 3-39.
- Features No. 2 and 3, Monitoring Protocol, Water Quality, Reference to Appendix D, "Water Quality Analytical Protocol", page D-2-1, Table D-2, proposed analytical suite for sampling from springs: Water quality sampling should be for feature no. 3 and not feature no. 2, and should include He^3 and stable isotopes of oxygen and hydrogen, pursuant to discussion in the text, Section 3.6.1.1, page 3-39, last paragraph, first sentence.
- Feature No. 4, third observation well listed, State Well Number: State Well Number should be 6N/15E-29Q1 (instead of ...P1), in accordance with Figure 3-5 and discussion in the text on page 3-42.

Page 3-26, Figure 3-4, "Monitoring Features (Regional)": NPS recommends the following revisions to this figure: F4-67

- The spelling of Schuyler Wash should be consistent between the text (page 3-19, right column, first paragraph) and Figure 3-4.
- The S-Series Monitoring Wells should be denoted by a unique color or pattern, and this color or pattern should be consistent with the legend for the figure.
- The legend in the figure is incomplete, and should include all the symbols and colors shown on the figure.

Page 3-26, Figure 3-4: Many symbols are unmarked on the explanation. Please correct this and make sure they are all in place on the figure. F4-68

Page 3-29, Section3.5 (Springs, Features 2 & 3): There is insufficient discussion as to who picks the 8 springs that will operate as long-term monitoring sites. NPS should make that determination in conjunction with its water experts and the USGS. F4-69

Section 3.5 (general): Decisions regarding additional measurements and monitoring described in the various features can not be delegated to the TRT/BMG. BLM has been given the responsibility for making these decisions by Congress. F4-70

Page 3-30, Section 3.5, Feature 8: Water quality samples should be taken on site, and should not be based on results from Lake Havasu. F4-71

Page 3-32, Section 3.5, Feature 10: Is the land surface elevation currently stable, decreasing, or increasing? F4-72

Page 3-32 and 3-33, "Proposed Observation Well Clusters..." (Feature 14): NPS suggests that some sort of depth specification be considered for the well clusters on and at the margins of the dry lakes. The reason for this suggestion is the complex nature of potential perched water tables in this area, due to ephemeral ponding of surface waters on the lakes from short duration, high intensity precipitation events in the watershed (and surface runoff to the lake beds), and the potential presence of a deeper regional water table beneath. F4-73

Pages 3-33 & 3-34, Subsection 3.5, Air Quality Monitoring (Feature 18): The second paragraph should be re-titled to read "Monitoring at the Boundary of Critical Resource Areas." Accordingly, the reference in the first paragraph to "Class I areas designated by the Clean Air Act" should be deleted and replaced with "Critical Resource areas." In the second paragraph, delete "...a Class I area (currently applies...as a Class I area.)" and replace with "Critical Resource area." In the third to last sentence of paragraph two, delete "Class I" and replace with "Critical Resource." The last sentence of the second paragraph should either be deleted or revised to indicate that meteorological monitoring would continue for the life of the project if such monitoring indicates there is a potential for project-mobilized dust to be transported to a Critical Resource area. [Note: See related comment re: Subsection 3.4.2, page 3-18.] In the first sentence of the third paragraph, delete "Class I" and replace with "Critical Resource." F4-74

Page 3-37, Subsection 3.5, Meteorological Towers (Feature 24): In the third sentence, delete "Clean Air Act ...National Park)" and replace with "Critical Resource area." The last sentence of this subsection should either be deleted or revised to indicate that meteorological monitoring would continue for the life of the project if such monitoring indicates there is a potential for project-mobilized dust to be transported to a Critical Resource area. [Note: See related comment re: Page 3-18, Subsection 3.4.2.] F4-75

Page 3-37, Section3.6: The TRT needs to make recommendations to BLM as it will be the final decision maker. F4-76

Page 3-37, Section3.6.1.1: There is insufficient discussion as to who picks the 8 springs that will operate as long-term monitoring sites. NPS should make that determination in conjunction with its water experts and the U.S.G.S. Also, who conducts field reconnaissance of the 28 known springs? NPS should assert a role in this process. F4-77

Page 3-39, right column, last paragraph: NPS recommends that the word "deuterium" be deleted, because deuterium is the stable isotope of hydrogen. As written, it is redundant. F4-78

Pages 3-39 and 3-40, Table 3-3: There is no reference in the text to Table 3-3 on page 3-40. NPS recommends that such a reference be added on page 3-39, left column, Features 2 and 3, first paragraph, last sentence. It should read: "Each of these springs would be classified based F4-79

on discharge rate in accordance with the criteria specified by Meinzer (1942), **and shown in Table 3-3"** (recommended revisions in bold type). F4-79

Page 3-40, Section3.6.1.3, "Post-Operational Monitoring of Springs: NPS recommends that wording in this section be consistent with information in Table 3-1, page 3-3. Specifically, post-operational monitoring frequency of springs should include continuous monitoring at 2 springs. F4-80

Page 3-42, Section3.6.2.2: BLM, not TRT/BMG is responsible for making final operational monitoring and survey decisions. F4-81

Pages 3-44 and 3-45, Subsection 3.6.4.1: The discussion in the first paragraph about open-air nephelometers should include the use of cameras. This will ensure consistency with the discussion of the Air Quality Monitoring (Feature 18) at Bristol and Cadiz Dry Lakes (see Subsection 3.5) and with Table 3-2. Figure 3-9 on page 3-38 should also include cameras within Feature 18. Similar to related comments above (see comments on subsections 3.4.2 and 3.5), the last sentence of the second paragraph should indicate that meteorological monitoring will operate for a minimum of five years for baseline data collection and possibly for the life of the project if transport from the project area to a Critical Resource area is confirmed by baseline monitoring. Also, either a separate subparagraph discussing use of digital cameras is needed in this subsection or the use of digital cameras (e.g., frequency, duration, and use of photographic monitoring data) needs to be incorporated into the separate subparagraph entitled "Open-Air Nephelometers." It appears from Table 3-1 on page 3-5 that digital photographs will be taken hourly, but there is no discussion in the text to verify that is the case. F4-82

Pages 3-46 & 3-47, Subsection 3.6.4.3: The use of digital cameras needs to be included in the discussion. F4-83

Page 3-48, Subsection 3.6.5.2: The subsection needs to be revised consistent with comments provided above regarding the topic of climatological monitoring (see Subsections 3.4.2, 3.5, and 3.6.4.1). There needs to be a commitment to continue to operate meteorological monitoring for the life of the project if baseline monitoring establishes a transport relationship between the project area and either of the two NPS Critical Resource areas (i.e., Mojave National Preserve or Joshua Tree National Park). F4-84

Page 3-48, Section3.6.6: Groundwater samples must be submitted to the lab for analysis within 24 hours, not "24 to 48" hours after collection, according to Appendix C protocols. F4-85

Page 3-49, Section3.6.8: There should be a pre-operational baseline report in addition to annual reports. In addition, any baseline data collected during the early operation phase should be summarized in a report. F4-86

Regional wind data should not be used exclusively to determine whether project mobilized dust could be transported to only Class 1 areas. As described above, protection of air quality is necessary at both Joshua Tree National Park and Mojave National Preserve regardless of Class 1/Class2 designations. Therefore, use of the regional wind data as it pertains to only Class 1 areas is too narrow. F4-87

Page 3-49, Subsection 3.6.8.1: The subsection discusses the provision for annual reports under the Plan, but it does not address protection of the air quality Critical Resource at Mojave National Preserve. In order to assure consideration of project-related impacts on Mojave National Preserve and other Critical Resources that are identified in the M/M Plan, delete "Class I area...National Park)" and replace with "Critical Resource area" at the end of the second paragraph. F4-88

Page 3-50, Subsection 3.6.8: The sixth bullet in this subsection falls short of providing information necessary to assure protection of air quality Critical Resources under the M/M Plan (Section 3). The same bullet statement is deficient as well with respect to the duration of monitoring necessary to assure continued protection of Critical Resources (e.g., Mojave National Preserve and Joshua Tree National Park). The NPS recommends deletion of the parenthetical phrase "(in first five-year report only)" in order to accommodate the possibility that meteorological monitoring may need to continue for the life of the project (see comments above regarding this topic in subsections 3.4.2, 3.5, 3.6.4.1, and 3.6.5.2). Also, delete "...Class I area...National Park)" and replace with "Critical Resource area" to assure consideration and reporting of impacts on all Critical Resources, not just one of the Critical Resources intended for protection under the M/M Plan. F4-89

F4-90

Pages 3-52 and 3-53, Table 3-4, "Summary of Action Criteria, Impacts and Corrective Measures": NPS recommends the following revisions to this table:

Page 3-52, Table 3-4: One of the identified Critical Resources, the "Aquifer System", includes impacts resulting from the "potential for long-term drawdown of groundwater." See page 3-12. However, Table 3-4 does not address this impact, nor provide for corrective measures to address this issue.

Page 3-52, Table 3-4, 4th column: The heading of the fourth column should be changed from "Close Watch Measures" to "TRT Analysis." The term "close watch" is no longer used in the document text. F4-91

Page 3-52, Table 3-4, First row of 4th column: For "Adverse Impacts to Springs", the 4th column should read, "TRT to Determine if Groundwater Level Changes are Attributable to Project Operations and, if so, Will the Changes Result in Adverse Impact." This recommended wording would make the information in this table consistent with the wording in the text on pages 3-54 and 3-55. F4-92

Page 3-52, Table 3-4, Second row; 3rd column: The trigger for action criteria for TDS levels in storage water is too high. MWD has set the trigger for action criteria for elevated TDS levels in water being stored in the aquifer at 1,000 mg/L using a 4-week moving average. In other words, Colorado River water being spread into the basin could exceed 1000 mg/L TDS or nearly double the TDS level that MWD used in its assessment of impacts of Colorado River water TDS levels (600 mg/L) on the water quality of the basin in Section 6. See page 6-3. F4-93

Page 3-53, Table 3-4, Last row, second column: The use of tramissometers in only Class I Areas is too limited. They should be used in Joshua Tree National Park and Mojave National Preserve, if warranted, regardless of any Class1/Class 2 designation. F4-94

Page 3-54, Section3.7.1.1: Who selects which 8 springs will be monitored for long term? F4-95

Page 3-54, Section 3.7.1.1, *"Action Criteria"*: The statement requiring a consensus of the TRT to determine when the TRT will meet to evaluate a groundwater level change in excess of the action criteria for S-Series observation wells is contradicted by information in the text on page 3-70, Section 3.9.2, "Responsibilities", which states that TRT meetings will be: "...on an annual basis, or more frequently as requested by any two members of the TRT...". NPS recommends that the standard stated on page 3-70 should apply uniformly throughout Section 3.7, and thus that the phrase "...a consensus of..." be deleted from the text on page 3-54. Note: This same issue also occurs on page 3-63, first paragraph. F4-96

Page 3-55, Figure 3-10: This flow diagram is unacceptable to the NPS. According to this flow chart, all issue resolution goes through the BMG, and the BLM has no decision-making authority unless the BMG cannot reach consensus. BLM is the responsible organization with the final decision making authority for all issues considered by the BMG which will have or may have an impact on federally managed resources. F4-97

Pages 3-56 to 3-64, Section3.7.2: This section fails to address impacts resulting from long term drawdown of groundwater in the basin. This potential impact to the groundwater basin is by far the most significant impact of the project and has not been adequately addressed in this document. Although a Closure Plan is proposed in Section 3.8 that would in theory address long term drawdown impacts, no such closure plan is currently in place. At very least, the trigger for preparing a closure plan discussed in Section 3.8 should be included in this section and added to Table 3-4. F4-98

Page 3-57, Section3.7.2.1: This section states that: "The Basin Plan also indicates that Colorado Regional Board's goal is to maintain the existing water quality of all nondegraded groundwater basins" and that SWRCB Resolution No. 68-16 states that "Whenever the existing quality of water is better than the quality established in policies as of the date on which such policies become effective, such existing high quality will be maintained until it has been demonstrated to the State that any change will be consistent with maximum benefit to the people of the State, will not unreasonably affect present and anticipated beneficial use of such water and will not result in water quality less than that prescribed in the policies." F4-99

Based on these provisions, it would appear that adding Colorado River having TDS levels twice to four times the current TDS levels of the basin groundwater will violate the objectives of both the Colorado Regional Board's Basin Water Quality Control Plan and SWRCB Resolution 68-16.

Additionally, there are no triggers set forth in this section for implementing corrective action, although Table 3-4 establishes a trigger of TDS concentrations in Colorado River Water exceeding 1,000 mg/L using a four week moving average. Instead, this section relies on conclusory statements made by MWD in Section 6 that adding Colorado River water at 600 mg/L to existing basin groundwater at 300 mg/L will have less than significant impacts. In other words, no triggers or corrective action are being proposed in Section 3.7.2.1 because MWD has predetermined that potential adverse impacts will not occur to existing basin groundwater F4-100

quality. This argument is circular because the stated goal of this document is the implementation of the Management Plan (see Section3.1) to prevent potential adverse impacts from becoming adverse impacts or significant adverse impacts. MWD has short-circuited this process by concluding up front that corrective measures will never be needed because it has determined that adding higher TDS Colorado River water will not degrade water quality of indigenous groundwater in the basin. MWD has no proof that this determination is or will be correct. Moreover, its conclusion that adding Colorado River Water to the basin will have "less than significant" impacts is based on the presumption that MWD will add Colorado River Water at 600 mg/L TDS to the basin, when in fact the TDS levels could be much higher based on the 1,000 mg/L TDS moving average trigger level in Table 3-4. Therefore, triggers and corrective measures should be included in this section. F4-100

Additionally, the definition of "significant" impact in this section is too narrow as will be discussed in comments to Section 4. F4-101

Page 3-58, Section3.7.2.2: There is no process described in which landowners can submit written complaints concerning their wells. There needs to be an education program informing landowners of the need for them to prepare written complaints if they experience drops in well water production. More importantly, the landowners must know to whom they send their complaints. F4-102

Page 3-58, Section3.7.2.2: The statement: "It is the intent of the project to operate without impacts to wells owned by neighboring landowners in the vicinity of the project area", suggests that the plan would not necessarily prevent adverse impacts resulting from the project. This is inconsistent with the stated purpose in Section 3.1. Furthermore, MWD's definition of "significant adverse impacts" is too narrow (see comments on Section 4.0). F4-103

Page 3-59, Section3.7.2.3, Action Criteria: It is the NPS position that the 0.5 ft trigger level must be from the baseline level, not some other reference level. F4-104

Page 3-61, Section3.7.2.4, Corrective Measures: It is the NPS position that there should be a trigger for operations to cease due to model-predicted impacts. F4-105

Page 3-65, Section3.7.4.1, first sentence: This statement is incorrect. In accordance with Section 3.5, Features 14 and 15, pages 3-32 and 3-33, two well clusters would be located on the margins of each lake, and one well cluster would be located on each dry lake playa. NPS recommends that the statement be changed in accordance with text on pages 3-32 and 3-33. F4-106

Page 3-65, Section3.7.4.1, *"Action Criteria"*: NPS recommends that the action criterion should be a groundwater level change of "6 inches in **any of** the cluster wells on the dry lake beds" (recommended revision in bold type). F4-107

Pages 3-65 and 3-66, Section3.7.4.1, *"Decision-Making Process"*: The term "potential adverse impact" is not defined well enough. Specifically, two aspects of the definition are important, as follows: F4-108

(1) the standard that the TRT will use to decide when a change becomes a "potential adverse impact"; and

(2) the location of the "potential adverse impact": (e.g. the lakebed, BLM Wilderness, or the boundary of Mojave National Preserve). F4-108

It is not clear what criteria the TRT would use to make an assessment that changes in groundwater levels constitute a potential adverse impact to air quality. Ultimate determinations concerning adverse impacts on air quality should be made by the BLM in consultation with NPS when impacts are to NPS resources. To be able to assess the potential for impact, the NPS must have a better understanding of the limit to the effects that the project proponents will ensure. Then an appropriate monitoring system and decision-making process can be devised. F4-109

Pages 3-66, 3-67, and 3-68 Subsection 3.7.4.2: This subsection embodies many of the major issues and shortcomings of the Plan as it relates to protection of air quality at Critical Resource areas managed by the NPS. Due to exclusion of changes to the document recommended in NPS comments on previous administrative drafts of this Supplement, it was necessary for the lead agency to insert "placeholder" language that provides consideration for Mojave National Preserve in right-of-way conditions administered by the BLM (see second paragraph of this subsection and last paragraph under "*Action Criteria*" for placeholder language). However, the M/M Plan itself does not commit to taking actions necessary to document potential impacts on Mojave National Preserve, nor does it require implementation of corrective measures at either park unit. F4-110

- A primary NPS concern is the major disconnect between the Critical Resource protection goal of the M/M Plan and the actual design of the M/M Plan, which largely ignores the need to monitor or consider impacts on Mojave National Preserve. The subsection overly restricts park unit monitoring to those areas designated Class I areas under the Clean Air Act. The subsection heading should delete reference to "Class I Areas" and replace it with "Critical Resource Areas" to read "Potential Visibility Impacts to Critical Resource Areas due to ...Wind Patterns." Similarly, all references to Class I areas (and related language) in this subsection should be changed to Critical Resource areas. It is the NPS' position that the air resources (air quality and air quality related values, like visibility) of Mojave National Preserve mandate protection in their own right under the NPS Organic Act and that the goal of the M/M Plan to protect these resources is appropriate. F4-111

- Another major concern is the prospect that the technical and management decision-making bodies (i.e., a Technical Review Team (TRT) and a Basin Management Group (BMG)) envisioned in the document would essentially usurp the NPS's Federal land manager's responsibilities to determine whether there are any future adverse impacts on air quality (i.e., visibility) in a park unit due to the project. Monitoring details, action criteria, and recommendations for corrective measures are dependent on these project decision-making bodies that would be staffed by the project proponents (Cadiz and Metropolitan Water District of Southern California), a Department of the Interior representative (unspecified) and the County of San Bernardino. If this adaptive management scheme becomes viable, there should be a formal representation on the TRT and BMG by the NPS or required consultation on issues related to park unit air quality impacts due to project operations. F4-112

- The "*Action Criteria*" for visibility measurements (subpart b) in NPS park units is not sufficient to ensure adequate visibility protection. The current criteria appearing in the document F4-113

could allow significant episodes to occur before any statistically significant change in seasonal average values are indicated. Additional criteria are needed to protect against episodic impacts. We suggest inserting the following language after "visibility measurements" at the beginning of subpart b "...indicate significant episodic events (measurements that exceed the 90 percentile value or 10% worst days that occurred prior to withdrawal of groundwater) or..." F4-113

- There currently is no mechanism to invoke "corrective measures" in this subsection. There are also no direct control methods (i.e., "add-on" mitigation or control measures) included in the "corrective measures" subparagraph. Other than modifying project operations related to water use, which potentially may be sufficient, the Supplement does not contemplate the use of any other possible methods to stabilize and maintain stabilization of dry lake surface material. With regard to invoking corrective measures, a "trigger" statement must be added under the "Decision-Making Process" to the effect that: F4-114

"If it is concluded that visibility changes at Mojave National Preserve or Joshua Tree National Park were due to project operations and that those impacts are potentially adverse, then the TRT will recommend implementation of corrective measures."

Page 3-68 to 3-69 Section3.8: The closure plan apparently addresses long term drops in basin groundwater levels. However, the criteria for triggering the closure plan are not set out specifically. Although a drop in static groundwater levels by 10 feet from Pre-Operational levels is the trigger for preparing a closure plan, there is no indication where in the basin these measurements would be taken, how often they would be taken, whether it would be an average drop or a drop in just one well, or what pre-operational level would be chosen if there is significant fluctuation in pre-operational groundwater levels. Also, without knowing the recharge rate for the basin, it would be impossible to ensure that at the end of the project, there would be no more than a 100 foot decline from pre-operational groundwater levels, particularly if groundwater levels drop more than 100 feet below pre-operational levels during the operational life of the project. If the recharge rate has been overestimated, groundwater levels may never rise to the 100 ft. level below the pre-operational level by the end of the project. By that time, it would be too late to institute corrective measures to avoid long term draw down below the 100 foot level. F4-115

Page 3-70, Subsection 3.9.1: In discussing the Department of the Interior's (DOI) role on the TRT, the M/M Plan states that it is likely that this representative would be no more than an observer to the TRT process. Project proponents and the BLM need to address how this status will ensure due consideration of monitoring data, synthesis and modeling of collected information, and decision-making that would be protective of potentially affected NPS Critical Resources. F4-116

NPS has already stated in writing (see NPS letter to BLM dated July 31, 2000) that it is not appropriate for Cadiz Inc. to be a member of the TRT or BMG. Also, if the TRT is retained, DOI should be more than just an observer in the group. Any technical review team should include participation by technical members from the USGS and NPS in addition to members from the BLM. F4-117

Page 3-70, Subsection 3.9.2: The TRT is assigned the responsibility to "review potential adverse impacts to Critical Resources." If the M/M Plan is not revised in accordance with NPS recommendations, how can the TRT meet this responsibility for Mojave National Preserve if, as the M/M Plan is currently written, no monitoring is planned for Mojave National Preserve to account for any potential adverse impacts? F4-118

Page 3-71 to 3-72; Section3.10: The BLM's decision making role is not contingent on the BMG's inability to reach consensus. BLM should have the ability to make final decisions on matters which may or will impact federally managed resources regardless of whether the BMG has reached consensus on that matter. The BLM's decision-making authority should be clearly defined in both the SEIS/SEIR and in the terms and conditions of the right-of-way grant. F4-119

Page 3-71, Subsection 3.10.1: Similar to the comment above on subsection 3.9.1, DOI representation on the BMG would be relegated to the role of observer. Project proponents and the BLM need to address how this status will ensure due consideration of the appropriateness of recommendations from the TRT or some other technical review group with respect to monitoring data, synthesis of collected information, and decision-making that would be protective of potentially affected NPS Critical Resources. F4-120

Page 3-71, Section3.10.2, "Responsibilities", second sentence: This statement is incorrect. In accordance with the Management Plan, as stated, the proposed project must not adversely impact Critical Resources. NPS recommends that the word "significantly" be replaced with "adversely" in this statement, in order to make it a correct statement about the Management Plan. F4-121

Page 3-71, Subsection 3.10.2: The BMG is currently assigned the responsibility to "modify project operations to protect Critical Resources and to prevent potential and actual adverse impacts from Project operations." If the M/M Plan is not revised in accordance with NPS recommendations, how can the BMG meet this responsibility for Mojave National Preserve if, as the M/M Plan is currently written, no monitoring is planned for Mojave National Preserve to account for any potential adverse impacts? NPS recommends that the BMG not be given blanket authority to reject recommendations of the TRT without good reason, provided to all member agencies in writing. F4-122

Page 3-72, Subsection 3.10.3: If project proponents are the majority of members on the TRT and BMG, then consensus on resource protection issues could potentially not be reached. Protection of resources often does not lend itself to a consensus process. BLM as mandated by Congress retains the ultimate control of the Right of Way regardless of whether the TRT or BMG are able to reach consensus. F4-123

Page 4-1, Section4.0: The use of the term "significant adverse impact" has been used in the SEIS/SEIR as early as in Section 1.1. It has been used in MWD's explanation for why storing Colorado River water in the groundwater basin will not trigger corrective measures to avoid degradation of the quality of the indigenous groundwater. *See* Section3.7.2.1. However, the definitions of what constitute "significant adverse impacts" are much too limited and vague in the CEQA Thresholds of Significance section. F4-124

The second bullet-pointed threshold of significance concerning depletion of groundwater supplies has been modified from the original CEQA guideline checklist for significant impacts which states: "Substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table (e.g., the production rate of pre-existing nearby wells would drop to a level which would not support existing land uses or planned uses for which permits have been granted)?" The threshold adopted by MWD in Section 4 incorporates the parenthetical example as part of the threshold. In so doing, MWD is unduly limiting significance of long term basin groundwater drawdowns to drops in production rates of nearby wells to levels not supporting current or planned permitted land uses, when in fact the guideline is much broader than that. Under this narrow threshold, impacts to springs and wells on federal lands from lowering of groundwater levels would never constitute a "potentially significant impact under the MWD-modified CEQA threshold. Although MWD has attempted to rectify this problem in the second to last bullet-point, it has merely formulated a circular argument in which a potentially significant impact could result from drawdown of groundwater that results in "substantial adverse impacts to springs." This is tantamount to saying that an impact to a spring on federal land is significant if it is significant. This bullet point should be deleted as it is meaningless and the second bullet point should be rewritten to accurately reflect the language in the CEQA guideline checklist without the use of the parenthetical example: "Substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table?" This threshold would then address both drops in well production as well as the springs. F4-125

Page 6-2 & 6-3, Section6.2.1: This section concludes that adding Colorado River water to the groundwater basin will not result in significant adverse impacts to water quality of the basin. As explained above, this conclusion is not supported in the text. The first bullet-pointed threshold of significance in Section 4.0 states: "The violation of any drinking water quality standards or waste discharge requirements, including those in the California Regional Water Quality Control Board's Colorado River Basin Region." As explained in Section 3.7.2.1, both the Colorado River basin RWQCB's basin plan and SWRCB Resolution No. 68-16 call for nondegradation of existing nondegraded groundwater basins. Adding Colorado River water with TDS and perchlorate levels in excess of current groundwater basin standards would violate these provisions and would constitute a potential "significant adverse impact." F4-126

Pages 6-8 and 6-9, "Potential for Long-Term Drawdown of Groundwater": Contrary to what is stated in this section, Section 3.7 does not provide for any corrective measures to prevent significant adverse impacts to long-term groundwater levels throughout the aquifer system due to project operations. Although a closure plan is contemplated for this project, it has not yet been formulated. Moreover, the proposed closure plan has not been subject to the same rigorous protocol requirements developed in Section 3.7 for other potentially adverse impacts from the project. It is the position of the NPS that the closure plan be subject to the same "action criteria, decision-making process, and corrective measures" protocol as is used in Section 3.7. As discussed above in comments to pages 3-68 to 3-69, Section3.8, knowledge of a reliable figure for recharge rate is essential to formulating an effective closure plan. F4-127

Page 6-9, paragraph 1, lines 6-8: This paragraph states that static groundwater drawdown of 100 feet would be acceptable and be considered less than significant. Nevertheless, a groundwater F4-128

drawdown of this magnitude is significant by almost any standard except those employed here. The document must be revised to show that this is an environmentally significant impact and is also one that may be irreversible. F4-128

Page 6-9, Section6.2.7: Neither the closure plan nor the MOU discussed in this section have been finalized. Therefore the protections from significant impacts from drawdown of the aquifer offered by these documents is speculative at this point. Both a closure plan and the finalized MOU should be made part of this document and incorporated by reference. Implementation of the closure plan can be made contingent on verifiable triggers. As explained in the comments to Section 3.8, there are problems with the current triggers for implementing the closure plan. F4-129

Page 6-11, Section6.3.2: The air quality at both Joshua Tree National Park and Mojave National Preserve could be significantly adversely impacted if the project causes mobilization of dust from Bristol and Cadiz dry lakes. See comments regarding Subsection 3.7.4.2. F4-130

Page 7-4, Section7.2: As explained in the NPS comments to Sections 4 and 6, the definition of "significant adverse impacts" has been too limited and/or vague. Thus, the conclusory statements in this section concerning impacts being "less than significant" are not correct absent additional protective measures being added to the Management Plan: 1) appropriate triggers and corrective measures dealing with long-term drawdown of the aquifer; 2) appropriate triggers and corrective measures addressing degradation of groundwater basin water quality; 3) broadening of air quality monitoring and corrective measure to cover both Joshua Tree National Park and Mojave National Preserve regardless of any Class 1/Class 2 distinction; 4) completion of a closure plan now with appropriate triggers and contingencies for future implementation; 5) finalization of the MOU concerning Cadiz Agricultural operations and their relationship to the Management Plan; 6) broadening and clarifying of the CEQA thresholds of significance to more accurately encompass the potential significant adverse impacts from this project. F4-131

The National Park Service will continue to act in good faith as a cooperating agency under NEPA in the effort to reach consensus on the issue of protection of Critical Resources in our National Park units. We thank you for the opportunity to review the SDEIS. You may contact Annie Kearns of my staff (760) 255-8815 or myself at (760) 255-8801 with any questions. F4-132

Sincerely,

Mary G. Martin
Superintendent, Mojave National Preserve