Final Program Environmental Impact Report

Implementation of the Colorado River Quantification Settlement Agreement

Volume 2 - Comments and Responses

June 2002

State Clearinghouse Number 2000061034

Coachella Valley Water District
Imperial Irrigation District
The Metropolitan Water District of Southern California
San Diego County Water Authority

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PREFACE

FINAL PROGRAM ENVIRONMENTAL IMPACT REPORT FOR THE IMPLEMENTATION OF THE COLORADO RIVER QUANTIFICATION SETTLEMENT AGREEMENT

Volume 2 of the Final PEIR contains comments received on the Draft PEIR in the order listed below and responses to those comments. Each substantive comment is numbered and a corresponding response is provided immediately following the comment letter. Twenty-one comment letters were received from the following from the following seventeen agencies, Indian tribes, organization, and individuals:

FEDERAL AGENCIES

- International Boundary and Water Commission
- U.S. Environmental Protection Agency

STATE AGENCIES

- California Office of Planning and Research, California State Clearinghouse
- Southern Nevada Water Authority
- California Department of Fish and Game
- California Department of Food and Agriculture
- California Regional Water Quality Control Board

REGIONAL AGENCY

- Southern California Association of Governments

LOCAL AGENCIES

- County of Imperial
- County of San Diego

INDIAN TRIBES

- Quechan Indian Tribe
- Torres Martinez Band of Desert Cahuilla Indians

ORGANIZATIONS

- Defenders of Wildlife
- National Audubon Society, Planning and Conservation League, Defenders of Wildlife, and National Wildlife Federation
- Save Our Forest and Ranchlands

INDIVIDUALS

- Floyd and Margot Overholt
- John Pavlich

FEDERAL AGENCIES

Comments and Responses

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INTERNATIONAL BOUNDARY AND WATER COMMISSION
UNITED STATES AND MEXICO

OFFICE OF THE COMMISSIONER
UNITED STATES SECTION

FEB 25 2002

Science Application International Corporation (SAIC)
Attn: QSA PEIR
816 State Street, Suite 500
Santa Barbara, CA 93101

Dear SAIC:

The United States Section, International Boundary and Water Commission (USIBWC) has reviewed the *Draft* Programmatic Environmental Impact Report (EIR) titled "*Implementation of the Colorado River Quantification Settlement Agreement*" dated January 2002. The review comments on the EIR are as follows:

General Comment:

The proposed Inadvertent Overrun and Payback Policy (IOP) is mentioned in the project description. Note that the IOP does not apply to Mexico and the deliveries made under the United States-Mexico Water Treaty of 1944. The IOP establishes requirements for payback of inadvertent overuse of Colorado River water by Colorado River users in the Lower Division States. This proposal affecting the Lower Division States does not include Mexico. In addition, the IOP does not conform to the Water Treaty of 1944. 1

Specific Comments:

- Page 1-14, line 16. Revise the footnote associated with the referenced Figure 1.3-2 schematic since the footnote refers to un-named impoundments and incorrectly includes Morelos Dam in that category. Morelos Dam is a diversion structure and has no impoundment. 2
- Page 1-23, line 15. Insert the wording that is found in the general comment section above. 3
- Page 2-17, line 16. Revise the footnote associated with the referenced Figure 2.5-1 illustration since Morelos Dam has no impoundment but is incorrectly categorized as having one. 4
- Page 3.1-1, line 16. Revise the referenced Figure 3.1-1, as stated above. 5
- Page 3.1-5, line 13. Revise the numerical quantity stated for the salinity limit allowed over the average. The correct limit is 115 +/- 30 milligrams per liter, and not the stated 15 +/- 30 milligrams per liter. 6

The Commons, Building C, Suite 310 • 4171 N. Mesa Street • El Paso, Texas 79902
(915) 832-4100 • (FAX) (915) 832-4190

- Page 3.1-25, line 3. Correct the typographical error by deleting the word "of." 7

If you have any questions, or require additional information, please call Mr. Steve Fox at (915) 832-4736.

Sincerely,

Sylvia A. Waggoner

Sylvia A. Waggoner
Division Engineer
Environmental Management Division

International Boundary and Water Commission, February 25, 2002

1. This comment is noted.
2. Figure 1.3-2, which contains the referenced footnote, has been revised and no longer indicates that Morelos Dam has an impoundment.
3. The discussion of the proposed Inadvertent Overrun and Payback Policy (IOP) policy has been revised to clarify that it does not apply to Mexico.
4. Figure 2.5-1 has been modified and no longer indicates that Morelos Dam has an impoundment.
5. Figure 3.1-1 has been modified and no longer indicates that Morelos Dam has an impoundment.
6. This typographical error has been corrected.
7. This typographical error has been corrected.

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

April 16, 2002

Robert D. Thomson
Quantification Settlement Agreement Co-Lead Agencies
c/o Science Applications International Corporation
816 State Street, Suite 500
Santa Barbara, CA 93101

RECEIVED
APR 22 2002
SAIC SANTA BARBARA

Dear Mr. Thomson,

The Environmental Protection Agency (EPA) has reviewed the Draft Program Environmental Impact Report (DPEIR) for the **Colorado River Quantification Settlement Agreement (QSA), Southern California.** We note that there is a clear connection between the QSA and other Federal actions (e.g., Interim Surplus Guidelines, Department of Interior Implementation Agreement, and Imperial Irrigation District/San Diego County Water Authority Water Transfer). Therefore, although the QSA is a non-Federal action, EPA believes it is appropriate to provide comments because of the broad scope of the QSA and its bearing on many Federal actions. Our review and comments on Federal actions are pursuant to the National Environmental Policy Act (NEPA), Council on Environmental Quality (CEQ) regulations (40 CFR Parts 1500-1508), Section 309 of the Clean Air Act.

It was our understanding from discussions with your office that the public comment deadline date had been extended to April 16, 2002. Mr. Elston Grubaugh of the Imperial Irrigation District has informed us that the April 16th comment deadline date was retracted and that the actual deadline date for comments was March 26, 2002. We regret the confusion regarding the comment deadline dates and submit our comments at this time. EPA's substantive comments (attached) contribute to the public dialogue on this action, and merit consideration in the decision making process.

The DPEIR assesses the environmental impacts associated with the implementation of the proposed Colorado River Quantification Settlement Agreement (QSA) for the apportionment of Colorado River water among four water agencies in southern California: Coachella Valley Water District (CVWD), Imperial Irrigation District (IID), the Metropolitan Water District of Southern California (MWD), and San Diego County Water Authority (SDCWA) (Co-Lead Agencies). The implementation of the QSA involves a series of nine water transfers, water exchanges, water conservation measures and other changes identified in the QSA:

- IID/SDCWA Water Conservation and Transfer Project (up to 300,000 acre-feet per year (af/yr)). (IID/SDCWA Water Transfer)
- Coachella Canal Lining Project - Conservation and Transfer
- IID/CVWD water transfer 1st 50,000 af/yr; 2nd 50,000 af/yr (MWD Option)

- MWD/CVWD 35,000 af/yr State Project Water Transfer and Colorado River Water Exchange
- 1988 MWD/IID Water Conservation and Transfer Agreement
- 1989 MWD/IID/CVWD/Palo Verde Irrigation District (PVID) Approval Agreement Amendment
- All American Canal Lining Project - Conservation and Transfer
- IID and CVWD Priority 3 Water Diversion Caps
- Sharing Miscellaneous and Indian Present Perfected Rights Obligations

The programmatic evaluation addresses the aggregate impacts of the implementation of each of the nine program components above. Separate environmental analysis has either been completed or is under preparation for many of these program components.

EPA endorses the effort to reduce Southern California's historic use of Colorado River water to California's legal apportionment of 4.4 million acre-feet per year (maf/yr) while minimizing the adverse effects on beneficial uses. We applaud the efforts by the Co-Lead Agencies, State of California, Department of Interior/Bureau of Reclamation, and other water resource stakeholders to provide flexibility to meet California's Colorado River allocation goals. The reduction of unused apportionment and increased development in both the upper and lower basins, clearly demonstrate the potential for significant water scarcity and the need for long-term strategies to address future shortages. Of special note are the quantification and voluntary diversion caps provided in the QSA. We acknowledge and are encouraged by the shifts in water policy, management, and planning for water resources in California. 1

EPA advocates use of multiple tools which will assure a long-term, sustainable balance between available water supplies, ecosystem health (e.g., in-stream beneficial uses) and water supply commitments. These tools include water transfers and exchanges, conservation, tiered pricing, irrigation efficiencies, operational flexibilities, market-based incentives, water acquisition, conjunctive use, voluntary temporary or permanent land fallowing, and wastewater reclamation and recycling. We are pleased that many of these measures have been integrated into the QSA. We urge aggressive implementation of water use efficiencies in order to achieve and maintain a sustainable balance between water supply and demand.

We note that environmental documentation on the potential impacts of the Department of Interior's Implementation Agreement (IA), which enables implementation of the QSA, and IID/SDCWA Water Transfer have also been released for public review. Although the IA, QSA, and IID/SDCWA Water Transfer are inextricably linked; the comment deadline dates are sequential, making it difficult for the public, local, state, and Federal entities to provide comprehensive comments on these actions. Our comments on the Department of Interior's Implementation Agreement have already been submitted to the Bureau of Reclamation. Since the IA enables implementation of the QSA, many of EPA's comments on the IA are relevant to our concerns with the QSA. Therefore, to minimize repetition, EPA's comments are attached and incorporated by reference. 2

2

Our review of the DEIS for the IID/SDCWA Water Transfer is not yet complete. Detailed comments on this water transfer project will be submitted to the Bureau of Reclamation by April 26th. Our comments on the IA DEIS, QSA DPEIR, and DEIS IID/SDCWA Water Transfer should be considered together and are incorporated by reference into our comments on each individual action. 3

We recognize the historic nature of the QSA which will result in a fundamental change in the use and allocation of California's Colorado River entitlement. Thus, we are disappointed in the lack of evaluation of the long-range water policy implications of the proposed actions especially given the programmatic nature of the evaluation. For instance, implementation of the QSA will help assure a more reliable water supply for Southern California cities which may influence land use planning and future development. We urge the Co-Lead Agencies to include a Chapter in the Final Program EIR (FPEIR) that clearly describes how water will be allocated and distributed, how the proposed QSA actions will reduce California's Colorado River use to 4.4 maf/yr while maintaining MWD's historic use of 1.25 maf/yr (e.g., how the water quantities add up), and how the QSA will help achieve a long-term sustainable balance between water supply and demand. 4

The DPEIR also contains significant gaps in its analysis of potential impacts. Most notable is the lack of evaluation of potential adverse impacts to Indian tribes. A total of thirty-five Indian tribes (see attached list) could be affected by proposed QSA actions and related actions such as the Interim Surplus Guidelines: five tribes on the lower Colorado River, six tribes in the Salton Sea watershed, six tribes that use or may be affected by the Central Arizona Project, and 18 tribes within San Diego County. These tribes have broad regulatory and land management authority for resources within and traversing their reservations. Water allocation, water use, and water quality within the region are of major interest to these tribes. 5

The DPEIR clearly states that there will be significant adverse effects to water quality, air quality, and the Salton Sea. Significant exceedences of the selenium aquatic life criteria (pg. 3.1-31), total dissolved solids (TDS) water quality standards (pg. 3.1-31), and PM10 air quality standards are predicted (pg. ES-8). Proposed QSA actions would also have significant adverse effects on the Salton Sea resulting in a more rapid collapse of the fisheries, displacement of sizable migratory bird populations, and exposure of up to 67,000 acres of currently inundated sediment. 6

Given the potential significant human health and environmental impacts, the exceedences of national standards, major gaps in the effects analysis, and minimal mitigation proposed; EPA objects to the proposed QSA actions and the DPEIR. Environmental objections indicate that our review has identified significant environmental impacts that should be avoided, via corrective measures or selection of another project alternative, to adequately protect the environment. EPA's goal is to ensure comprehensive disclosure of critical issues and adverse impacts and to first avoid and, then minimize impacts to human health and the environment to the greatest extent practicable. 7

3

We acknowledge that the DPEIR is a programmatic evaluation of the aggregate impacts of the QSA components and understand that separate project-level environmental analysis has either been completed or is under preparation for many of these program components. However, a fundamental purpose of this program-level document is to provide a comprehensive view of the QSA framework and present a complete summary of key issues and potential impacts that need to be addressed. We believe the DPEIR does not contain sufficient information to provide this comprehensive view or to fully assess environmental impacts that should be avoided in order to fully protect the environment and human health. The identified additional information, analyses, and discussions should be included in the FPEIR. 8

Detailed comments are enclosed. We appreciate the opportunity to review this DPEIR and are available to discuss these issues with you further. Should you have questions, please call Laura Fujii, of my staff, at (415) 972-3852. Please send three copies of the final environmental document to this office at the same time it is released to the public. 9

Sincerely,

Enrique Manzanilla, Director
Cross Media Division

Enclosures: Detailed Comments (12 pages)
EPA's Comments on the DEIS IA
List of Potentially Affected Indian Tribes
Tribal Consultation Executive Order
Guidance for Incorporating Environmental Justice Concerns

MI003421
Filename: CAquantagreedeir.wpd

cc: William Rinne, BOR
Bruce D. Ellis, BOR Phoenix
Carol Roberts, USFWS
Charles Fisher, IBWC
Charles Keene, CA DWR
Arthur G. Baggett, Jr., SWRCB
Phil Gruenberg, RWQCB
Sylvia Oey, CARB
Patricia Port, DOI
Tom Kirk, Salton Sea Authority
Water Resources Division, USGS, Yuma, AZ.
Southern California Agency, BIA
Sacramento and Phoenix Area Offices, BIA
Affected Indian Tribes (see attached list)

4

EPA DPEIR COMMENTS, COLO. RIVER WATER QUANTIFICATION SETTLEMENT AGREEMENT, APRIL 2002

DETAILED COMMENTS

Scope of the Evaluation and Water Supply Reliability Implications

1. Although the Draft Program EIR (DPEIR) lists the components of the QSA, it does not clearly describe how the proposed actions will help achieve the goal of reducing Southern California's historic use of Colorado River water to California's legal apportionment of 4.4 million acre-feet per year (maf/yr) while minimizing the adverse effects on beneficial uses. 10

Recommendation:

The Final Program EIR (FPEIR) should include a description of how the proposed QSA actions will reduce California's Colorado River use to 4.4 maf/yr while maintaining MWD's historic use of 1.25 maf/yr. We recommend this description include a simple calculation showing how the amounts of the various water transfers and exchanges result in the quantities of water described (e.g., reduction of Colorado River diversions to 4.4 maf/yr, exchange of 300 kaf/yr to San Diego, maintenance of 1.25 maf/yr in Colorado River Aqueduct).

2. Effective and sustainable management of water supplies depends on an accurate knowledge of water supply availability and water use. This knowledge can only be obtained through monitoring and accounting of water supply and demand. 11

Recommendation:

We recommend the Co-Lead Agencies, in partnership with the regulatory agencies and local communities, make a firm commitment to timely and accurate monitoring and accounting. This commitment should include dedicated funding for the monitoring/accounting effort. The FPEIR should describe proposed monitoring, accounting methods, enforcement tools, and assurance measures that will be used to verify, validate, and ensure effective implementation of the QSA and its water conservation and transfer actions. Given the proposed transfer of significant amounts of water, the FPEIR should persuasively demonstrate that water will be put to reasonable beneficial use and that there will be safeguards against misuse of the water.

3. The Quantification Settlement Agreement (QSA) would result in a fundamental change in the use and allocation of California's Colorado River entitlement, at least for 75 years. Thus, we believe the FPEIR should fully disclose the potential long-term water policy implications of implementation of the QSA. 12

Recommendations:

At a minimum, we recommend the FPEIR addressed the following: 13

– Potential effects of the QSA and the proposed shortage agreement, on long-term water supply reliability and sustainability for agricultural and urban beneficial uses. For example, what happens after 75 years of the QSA? Is there an expectation that Metropolitan Water District (MWD) and San Diego County Water Authority (SDCWA) will have developed other water sources to replace the water that could revert to Imperial Irrigation District (IID)? Or would IID reclaim the 300,000 acre-feet per year (afy) currently proposed for transfer to SDCWA?

– Urban growth. The transfer water appears to replace existing unreliable water supply, purchased from MWD, with a reliable supply, purchased from IID. Thus, the DPEIR states that the transfer water will be used for existing development and not future growth. Increased reliability of the water supply could significantly influence future regional land use planning and future development. In addition, by replacing the existing unreliable water supply with a more reliable one, new water supply sources may then be available for other future beneficial uses. We recommend the FPEIR describe water supply sources and quantities assumed for existing, approved, and planned growth. We also recommend describing potential mechanisms, where and if appropriate, to ensure the maximum efficient use of the transfer water for current beneficial uses. 14

Given the increasing scarcity and limitations of existing water supply sources, EPA advocates implementation of planned growth principles which are town-centered; transit and pedestrian oriented; have a greater mix of housing, commercial and retail uses; and maximize water use efficiencies. We urge aggressive implementation of water use efficiency measures in order to achieve and maintain a sustainable balance between water supply and demand. We recommend the FPEIR provide a detailed description of water use efficiency and water conservation efforts being taken by SDCWA and MWD. We encourage consideration of water use efficiency targets as one benchmark for obtaining additional increments of transfer water. 15

4. The DPEIR appears to limit its evaluation to potential impacts within the United States up to the international border with Mexico. Actions related to the QSA, such as the Interim Surplus Guidelines and lining of the All-American Canal, could have potentially adverse transboundary effects to the Mexicali groundwater basin and Lower Colorado River delta. 16

Recommendation:

The FPEIR should provide a summary of transboundary effects, including the concerns expressed by Mexico regarding the All-American Canal lining project, and Cocopah regarding adverse cumulative effects to the Limitrophe and Lower

2

Colorado River Delta. We recommend the FPEIR describe how these concerns have been addressed. The FPEIR should also include a general overview of the Lower Colorado River delta: current conditions, efforts to restore the delta, and pending litigation and International Boundary and Water Commission actions. 16

Water Quality 17

1. EPA objects to the projected increase in concentration and magnitude of exceedences of the selenium aquatic life criteria in the New and Alamo Rivers and Imperial Irrigation District (IID) agricultural drains (pg. 3.1-19 to 3.1-31)). As noted in the DPEIR (pgs. 3.1-10, 3.1-11; Table 3.1-15, pg. 3.1-29), the concentration of selenium in many locations already exceeds EPA's aquatic life criteria of 5 micrograms per liter (ug/l). We note that it is likely that the selenium aquatic life criteria will be revised to a level of 2 ug/l. Therefore, other discharge locations, such as the New River outlet to the Salton Sea (projected to have a selenium level of 3.77 ug/l) would exceed future aquatic life criteria. We are also very concerned with the potential for increased concentrations of perchlorate, boron, nutrients, pesticides, sediments, metals, and total dissolved solids. Our concern is heightened by the presence of fish-eating migratory birds and other threatened and endangered fish and wildlife species that could be adversely affected by these harmful constituents and the bioaccumulation of selenium up the food chain.

Recommendations: 18

We recommend the FPEIR evaluate potential mitigation measures to address the adverse increase in concentration of constituents of concern such as selenium. Potential mitigation measures include anaerobic, microalgal, and chemical selenium removal; integrated drainage management; desalination; evaporation ponds; deep well injection of extremely poor drainwater; and beneficial uses of drain water and salts.[1] In addition, the Regional Water Quality Control Board (RWQCB) will be developing Total Maximum Daily Loads (TMDL) for salinity, selenium and nutrients in the Salton Sea. TMDLs are quantitative assessments of the sources of pollutants (e.g., selenium) and allocated reductions of the pollutants for each pollutant source in order to reduce pollution levels to achieve water quality standards. We encourage the Co-Lead Agencies to work with the Regional Water Quality Control Board, Bureau of Reclamation, EPA and local Indian tribes in the development of TMDLs and other measures to address water quality problems.

The DPEIR does not appear to evaluate the bioaccumulation effects of selenium on biological resources of the New and Alamo Rivers, and the Salton Sea. We believe this is a significant gap in the effects analysis, especially given the 19

[1]San Luis Unit Drainage Feature Re-Evaluation, Preliminary Alternatives Report, US Bureau of Reclamation, Mid-Pacific Region, December 2001.

3

presence of sensitive fish and wildlife species, current efforts to restore the Salton Sea, and efforts to address water quality problems in regional water bodies (e.g., Total Maximum Daily Loads program). The FPEIR should provide a full description of the bioaccumulation effects of selenium and its potential interactions within the Coachella Valley, Imperial Valley, and Salton Sea ecosystems. 19

The DPEIR also does not provide information on the potential for increased concentrations of perchlorate, boron, pesticides, nutrients, sediments, metals and total dissolved solids. Many of these constituents, such as perchlorate, can have serious adverse effects on human health and the environment. We recommend that the FPEIR provide additional data on the possibility for increased concentrations of perchlorate, boron, pesticides, nutrients, total dissolved solids, sediments and metals in drainage water flowing into the New, Alamo, and Whitewater Rivers and the Salton Sea. The FPEIR should also provide an evaluation of the cumulative effects of possible increased concentrations of these constituents of concern. 20

Although we recognize the challenge of addressing degraded drain water quality, especially that caused by increased water use efficiencies, we urge the Co-Lead Agencies to work with the Bureau of Reclamation, Regional Water Quality Control Board, and EPA in developing feasible measures to avoid, minimize or mitigate the degradation of water flowing into critical fish and wildlife habitat. 21

2. Selenium concentration is increased in IID drains, the Alamo River, and New River due to reduced quantity and quality of drainage water. The DPEIR states that there is no feasible mitigation for the selenium concentration problem. On the other hand, the DPEIR states that Mitigation Strategy 2, use of conserved water as mitigation, will result in less-than-significant impacts at the Salton Sea for air quality, recreation, and biological resources because the conserved water would replace water lost (e.g., AQ 3.7-9). It is not clear why use of conserved water to replace inflows into the Alamo and New Rivers would not also help reduce the increase in selenium concentrations. 22

Recommendation:

The FPEIR should evaluate whether the use of conserved water as mitigation for reduced flows would be a feasible mitigation for reduced water quality.

3. The use of Colorado River water to recharge the overdrafted Coachella Valley groundwater aquifer is a serious matter for EPA. The DPEIR states that the use of Colorado River water, which is high in total dissolved solids (TDS), for groundwater recharge could cause lower aquifer groundwater to exceed 500 milligrams per liter (mg/l) and thus exceed EPA water quality standards (pg. 3.1-31). The proposed groundwater recharge area is located near Martinez 23

Canyon below Lake Cahuilla which would be less than one mile from a primary drinking water well for the Torres Martinez Indian Reservation. 23

In addition, Colorado River water, at sampling points between Hoover Dam and the Mexican Boundary, has consistently measured from 4 to 10 parts per billion (ppb) of perchlorate since testing began in 1997, including 8 ppb in the most recent Hoover Dam sample on February 22, 2002. On January 18, 2002, the California Department of Health Services (CA DHS) lowered the State Action Level for perchlorate in drinking water to 4 ppb requiring water agencies to notify public officials if this level is exceeded. Therefore, the water that will be used to reduce the groundwater overdraft could exceed drinking water standards and potentially affect and contaminate a drinking water source of the Torres Martinez Indian Band. In fact, EPA's National Center for Environmental Assessment recently published a draft Toxicity Health Assessment recommending a dose of approximately 1 ppb as a safe level for perchlorate in drinking water. Analytical methods to reliably detect perchlorate below 4 ppb are in development for general use.

Recommendation:

We urge the Co-Lead Agencies to provide a programmatic level evaluation of potential adverse effects of the groundwater recharge proposal on tribal and Coachella Valley drinking water sources and groundwater quality. For instance, the aquatards between aquifers are interlocking clay lenses which could leak resulting in the contamination of higher quality aquifers used for drinking water. The FPEIR should include a firm commitment to full disclosure and detailed evaluation of potential groundwater effects in the future EIR for the groundwater recharge actions. If there is a risk of contamination to tribal or other drinking water sources, the FPEIR should evaluate potential mitigation measures for this impact.

4. The DPEIR states "that there is no water quality criterion for salinity in the Salton Sea and, therefore, increased salinity would not be a significant impact when compared to current trends." (Table ES-1, pg. ES-45). We note that the Regional Water Quality Control Board has initiated development of a Total Maximum Daily Load (TMDL) for salinity in the Salton Sea. In addition, TMDLs for selenium and nutrients in the Salton Sea are required. 24

Recommendation:

EPA has a strong interest in ensuring actions that may affect the Salton Sea are consistent with TMDL requirements and the need to meet water quality standards. Therefore, we recommend TMDL actions be integrated into the proposed QSA actions, where applicable, and fully described in the FPEIR. Potential impacts of proposed actions on development and implementation of TMDLs must be fully addressed in the FPEIR and in future EIRs.

5. Potential alternatives evaluated in the DPEIR include connecting the Coachella Canal to the Colorado River Aqueduct or connecting the All-American Canal to the SDCWA system. Under these alternatives, Colorado River water, already high in salts and other constituents, would be subjected to additional evaporation. EPA is concerned with the potential increase in the concentrations of constituents such as selenium and perchlorate which have known adverse effects to human health and the environment. 25

Recommendation:

The FPEIR should include an evaluation of the likelihood of increasing the concentration of constituents of concern through increased evaporation which may be caused by proposed alternatives.

6. In the past, the US Geological Service (USGS) has provided adequate sampling and monitoring of water quality in the Lower Colorado River. The USGS monitoring program has been severely reduced as of October 2000 due to lack of funding. The USGS' National Stream Quality Accounting Network - NASQAN, has been collecting comprehensive and long-term monitoring data for this vital water supply source. 26

Recommendation:

With the potential changes in the management of flow and storage in the Colorado River system and increased use of the water for direct human consumption, the effective monitoring of water quality is critical. The FPEIR should describe whether actions have been taken to support and continue the NASQAN. If not, we urge the Co-Lead Agencies, Department of Interior and Bureau of Reclamation, as managers and users of the Colorado River, to advocate and help pursue funding to restore the USGS NASQAN effort, a critical part of water quality monitoring of the Colorado River.

Air Quality

27

1. Proposed QSA actions could result in exposure of 67,000 acres (approximately 105 square miles) of land currently inundated by the Salton Sea. The DPEIR states that the surface elevation of the Salton Sea is expected to decline at a faster rate and to a greater extent with the QSA. The evaluation of potential air quality impacts states that exposed Salton Sea sediments would dry with a crust covering which would minimize the ability of winds to generate dust emissions. Thus, the DPEIR appears to conclude that the level of dust emissions would be dependent upon the amount of human disturbance of these exposed soils (pg. 3.7-9).

EPA disagrees with the statement that the exposed lake bed, caused by reduced inflows to the Salton Sea, would dry and form a crust covering which would minimize the ability of winds to generate dust emissions. EPA believes that the crust formed may breakup under natural events similar to the Owens dry lake bed in California. These natural events could come from ground water evaporation, surface moisture, or rain. These events can cause the surface to crack and,

when exposed to wind, will contribute to particulate matter less than 10 microns in diameter (PM10) emissions. The Owens dry lake bed is approximately 105 square miles of which 35 square miles (22,400 acres) are highly emissive. Crust formations do accrue upon the Owens dry lake bed that can sustain the weight of a car. As the weather changes, these surfaces break up and cause the worst PM10 emissions in the United States. 27

EPA objects to the potential air quality impacts of exposed Salton Sea sediment. Our objections are increased by the lack of information and data regarding constituents of the sediments and its potential behavior when exposed to high winds and human disturbance. We note that there is widespread local concern regarding the constituents of the exposed sediment and its potential to cause adverse human health and environmental effects.

Recommendations:

We strongly recommend that the Co-Lead Agencies initiate, with the Bureau of Reclamation and other stakeholders, a study to determine the durability and sustainability of crust formations on the exposed Salton Sea shoreline. A description of proposed data collection actions should be disclosed in the FPEIR We note that the composition of the sediments and weather patterns may vary along the shoreline and affect crust formation. This fact should be considered when designing the study. 28

We recommend that the FPEIR include a description of the composition of the sediments and the risk of adverse human health and environmental effects if this sediment becomes airborne. If specific data is not available, the FPEIR should describe research and data needs and commit to participate in efforts to obtain this critical information. 29

The FPEIR should also evaluate possible control measures for the newly exposed shoreline. Control measures could include, but are not limited to, the introduction of native plants to provide ground cover. Human disturbances along the exposed shore line should also be addressed as they too can contribute to PM10 and dust emissions. 30

We also recommend that the FPEIR contain a detailed summary of the air quality evaluation, conclusions, and proposed mitigation measures provided in the IID/SDCWA Water Transfer DEIS. We believe it is especially important to describe various air quality mitigation options for affected tribal land since this land is an Indian Trust Asset. 31

2. The DPEIR indicates that air quality impacts could be cumulatively significant if multiple projects occur at the same time (pg. 4-31). It also states that construction projects in the IID and CVWD service areas would create short-term significant air quality impacts. With the exception of these cumulative air quality impacts, the DPEIR states that mitigation measures associated 32

with the QSA actions would reduce the potentially significant cumulative impacts to less-than-significant levels (pg. 4-32). Given the PM10 nonattainment status of the region and the potential exposure of 67,000 acres of Salton Sea sediments, EPA remains very concerned with the potential for major air quality problems. 32

Recommendation:

The FPEIR should provide a more rigorous evaluation of potential air quality impacts. We strongly recommend the Co-Lead Agencies work closely with the Air Resources Board and its regional offices in developing measures to avoid, minimize, and mitigate potential adverse air quality effects.

3. The use of conserved water to replace the loss of inflow into the Salton Sea has been suggested as mitigation for potential air quality impacts from exposed sediments (pg. 3.7-14). Replacement water would maintain the existing inflows to the Salton Sea, avoiding and minimizing the reduction in the Sea's surface elevation and exposure of currently inundated land. 33

Recommendations:

EPA recognizes water conservation and fallowing as tools to avoid, minimize and mitigate for potential impacts of the proposed actions. Thus, we wish to acknowledge the second mitigation strategy of utilizing conserved water to help address adverse air quality impacts of the QSA. We note that fallowing is a very controversial issue and has been rejected by many of the local communities. We recommend the FPEIR provide a more detailed evaluation of the feasibility and process of using conserved water to avoid and minimize adverse air quality effects on the Salton Sea.

We also recommend the FPEIR describe other mitigation measures which could help address adverse effects of exposed Salton Sea sediments.

4. EPA believes that it is important and appropriate that the FPEIR address the new eight-hour ozone standard and the new "fine" particulate matter standard (PM2.5). The DPEIR states that portions of the Project region do not attain the current ozone standard, including Imperial County and southwestern portions of San Bernardino and Riverside counties (pg. 3.7-3, 3.7-5). Although EPA has not designated nonattainment areas for either of these standards, we believe these standards may have bearing on proposed QSA actions. Because the eight-hour ozone standard is more stringent than the one-hour ozone standard, it is likely that parts of the project area would be designated as a nonattainment area for the eight-hour ozone standard, possibly within the time frame of the proposed action. Therefore, it would be useful, and appropriate under the public disclosure requirements, to include a discussion of the implications of the new eight-hour ozone standard with respect to the execution of the IA, QSA, and IID/SDCWA Water Transfer. EPA recognizes the serious health effects that "fine" particulates can cause, and, therefore, urges project proponents to reduce particulate emissions to the greatest extent possible. 34

This is particularly important where the project will impact sensitive receptors, such as children and the elderly. 34

Recommendations:

In its discussion of air quality impacts the FPEIR should include a discussion of the new eight-hour ozone standard, as well as the new PM2.5 standard. To the extent that monitoring data is available on these two criteria pollutants, include that information in the FPEIR.

In addition, we urge the Co-Lead Agencies to commit to a detailed discussion of measures to reduce construction and operational generation of PM2.5 (please refer to our enclosed comments on the IA DEIS).

Tribal Resources and Consultation and Coordination with Indian Tribal Governments

1. EPA objects to the lack of evaluation of potential impacts to Indian Tribes or Indian Trust Assets. We find this lack of evaluation especially egregious given the presence of a number of tribes (e.g., Torres Martinez, Coachella Valley Tribal Consortium, 18 tribes in San Diego County, Cocopah Indian Tribe) that could be directly affected by proposed QSA actions. These tribes have broad regulatory and land management authority for resources within and traversing their reservations. For instance, the Torres Martinez and Coachella Valley Tribal Consortium are currently establishing beneficial use criteria for waters in and under their reservations and are developing water quality standards and TMDLs to protect these uses. 35

The Cocopah Indian Tribe has expressed concern with the cumulative decrease in water to the Limitrophe. The Limitrophe is a 22-mile stretch of the Lower Colorado River and is the boundary between Mexico and the US created via the Gadsden Treaty (1853). It is a major part of the Cocopah Tribal lands. The Cocopah are working to have the Limitrophe designated an International Wildlife Refuge. Furthermore, the Tribe exists on both the US side and in the Colorado River delta of the Mexican side and has a strong interest in restoring the Colorado River delta region. 36

Recommendations:

We strongly recommend that all potentially affected Indian Tribes be consulted on a government-to-government basis. For assistance you may contact James Fletcher, Region 9 EPA, State, Tribal, and Municipal Programs Office, 619-235-4763 (place-based in San Diego, CA.) or Clancy Tenley, Manager of the Indian Programs Office, 415-972-3785.

The FPEIR should evaluate the potential effects of QSA actions on Indian Tribes and their Trust Assets, including those of the Cocopah and other Colorado River Tribes.

2. The Torres Martinez Indian Reservation is adjacent to and partially inundated by the Salton Sea and will, therefore, be adversely affected by identified impacts to the Salton Sea. In fact, nearly 12,000 acres of the Reservation is inundated by the Salton Sea. Part or all of this inundated land may be exposed under proposed QSA actions. The DPEIR speculates that this land may be suitable for agriculture or other purposes, such as recreational uses, and could be developed (pg. 3.4-10). We note that this statement is contrary to the statement that the level of dust emissions from exposed sediments would be proportional to the level of human disturbance of these exposed soils (pg. 3.7-9). 37

Given the designation of the Salton Sea as an agricultural sump for drainage water which may contain selenium, metals, perchlorate, pesticides and other contaminants, EPA questions the ability to utilize exposed land for specific uses. The Salton Sea has been sustained by agricultural drainage water for more than 60 years. Constituents of this water and its sediments, which may be deposited on land inundated by the Salton Sea, are not well known.

Recommendation:

Additional research and data collection is needed before making a determination on the use of and potential impacts from exposed Salton Sea sediment. We recommend the FPEIR describe existing research on Salton Sea sediment and the efforts to obtain more data. For instance, the Regional Water Quality Control Board has recently entered into an agreement with the Torres Martinez to conduct water quality sampling and sediment analysis for various constituents. If information in the IID/SDCWA Water Transfer DEIS is referenced, the FPEIR should contain a summary of the evaluation, conclusions and mitigation measures proposed in the IID/SDCWA DEIS.

3. Figure 1.1-2, "Other Potentially Affected Water Agencies and Selected Tribes" does not include the six tribes located in the Coachella Valley: Cabezon Band of Desert Cahuilla, Torres Martinez, the Morongo Band of Mission Indians, the Agua Caliente Band of Desert Cahuilla, Twenty Nine Palms Band of Mission Indians, and Augustine Band of Desert Cahuilla. The DPEIR is also silent regarding consultations or notifications made to the tribes. 38

Recommendations:

Figure 1.1-2 should be corrected to include all potentially affected tribes. The FPEIR should also describe the government-to-government consultation and coordination with these tribes.

Biological Resources

1. The description of the Salton Sea provided in the DPEIR does not describe the fish kills, bird die-offs, and hypereutrophication of the Sea which are major immediate concerns. Full disclosure of the existing condition of the Salton Sea is important since implementation of the QSA could have significant adverse affects on this condition. 39

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Recommendation: 39

The FPEIR should include a complete description of the biological resources at the Salton Sea, their current condition, potential risks to these resources and the efforts underway to stabilize and save these resources.

2. Implementation of the QSA could result in significant adverse effects to biological resources due to construction within the IID service area, reduction in flows of the Lower Colorado River, reduction in Salton Sea surface elevations, and increased salinity in the Salton Sea. Mitigation measures to address construction and Lower Colorado River flow impacts to biological resources include habitat replacement and enhancement and specific species conservation strategies. To address adverse effects to the Salton Sea, two mitigation strategies are proposed: Strategy 1 - fish hatchery and habitat replacement, and Strategy 2 - use of water conserved through fallowing as mitigation (pg. 3.2-38). 40

EPA supports all efforts to avoid, minimize, and mitigate potential adverse effects of the QSA. However, we question whether proposed mitigation, especially mitigation proposed for the Salton Sea, would be able to reduce adverse impacts below the level of significance.

Recommendations:

The first mitigation strategy for the Salton Sea appears to deal primarily with the potential increase in salinity and the eventual collapse of the fishery and subsequent displacement of fish-eating migratory birds. Other potential adverse effects, such as bioaccumulation of selenium, do not appear to be addressed. We urge the Co-Lead Agencies to develop a more comprehensive mitigation strategy for biological resources that would address all potential adverse impacts to the Salton Sea and other affected fish and wildlife species and habitat. EPA urges use of all possible tools, including voluntary fallowing, to avoid, minimize, and mitigate for potential impacts to biological resources. We acknowledge the second mitigation strategy of utilizing conserved water to help address adverse biological resource impacts of the QSA. We note that fallowing is a very controversial issue and has been rejected by many of the local communities. We recommend the FPEIR provide a more detailed evaluation of the feasibility of using conserved water to avoid and minimize adverse biological resources effects on the Salton Sea.

General Comments

1. The DPEIR provides a brief description of the proposed actions and potential effects of transferring Colorado River water to CVWD to help implement the Coachella Valley Water Management Plan (pg. 6-6). We note that the Coachella Valley Water Management Plan is still being finalized and that the Draft Program EIR for the Water Management Plan has not yet been released for public comment (pg. ES-4). 41

Recommendation:

We believe more information regarding the specific components and agreements in the Coachella Valley Water Management Plan should be included in the FPEIR. For instance, provide information on whether Colorado River water would be used in lieu of groundwater pumping and whether there will be restrictions and limitations placed on groundwater pumping at the same time groundwater recharging with Colorado River water is implemented. 41

2. The DPEIR does not appear to evaluate potential environmental justice impacts even though proposed actions could have a disproportionate effect on agricultural workers, Indian tribes, and low income or minority populations. 42

Recommendation:

Although CEQA may not require evaluation of environmental justice effects, we believe such an evaluation is very important given the presence of low income populations or minority communities which could be disproportionately and adversely affected by proposed implementation of the QSA. As a guide, we have enclosed the Federal Executive Order 12898, "Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations."

3. A number of QSA components are provided project-level California Environmental Quality Act (CEQA) coverage through this DPEIR (e.g., Priority 6a priority and volume allocations, effects of shortage sharing provisions) (Table 2.4-1, pgs. 2-4 to 2-7). The current format provides this evaluation under each resource area. The resultant project-level analysis is very repetitive, confusing, and redundant where many of the evaluations are identical except for a few word changes. 43

Recommendation:

We recommend the FPEIR consolidate the project-level evaluations into a single section organized by QSA component versus repeating the same analysis statement for the component for each resource area.

Lower Colorado River Water Supply Projects and the Salton Sea
Potentially Affected Tribes

A total of thirty-five indian tribes could be affected by proposed Colorado River actions and related actions: five tribes on the lower Colorado River, six tribes in the Salton Sea watershed, six tribes that use or may be affected by the Central Arizona Project, and 18 tribes within San Diego County.

Lower Colorado River
Chemehuevi Indian Tribe
Cocopah Indian Tribe
Colorado River Indian Tribes
Fort Mojave Indian Tribe
Fort Yuma Quechan Indian Tribe

Salton Sea
Cabezon Band of Desert Cahuilla
The Five Tribes of the Morongo Consortium of Coachella Valley Tribes:
- Torres-Martinez
- The Morongo Band of Mission Indians
- The Agua Caliente Band of Desert Cahuilla
- Twenty Nine Palms Band of Mission Indians
- Augustine Band of Desert Cahuilla

Central Arizona Project
Salt River Indian Community
Fort McDowell
AK Chin
Tohono O'Odham
Gila River Indian Community
Pascua Yaqui

San Diego County

Campo	Pauma
La Posta	Pala
Cuyapaipe	Manzanita
Viejas	Inaja
Barona - Barron Long	Capitan Grande
Sycuan	Rincon
Jamul	San Pasqual
Meas Grande	La Jolla
Santa Ysabel	Los Coyotes

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

March 26, 2002

Mr. Bruce D. Ellis
Environmental Resources Management
Division
Phoenix Area Office
Bureau of Reclamation
PXAO-1500
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Phoenix, AZ 85069-1169

RECEIVED
APR 22 2002
SAIC SANTA BARBARA

Dear Mr Ellis:

The Environmental Protection Agency (EPA) has reviewed the Draft Environmental Impact Statement (DEIS) for the **Implementation Agreement, Inadvertent Overrun and Payback Policy, and Related Federal Actions, Lower Colorado River, Arizona, California, and Nevada** (CEQ# 020007). Our review and comments are pursuant to the National Environmental Policy Act (NEPA), Council on Environmental Quality (CEQ) regulations (40 CFR Parts 1500-1508), and Section 309 of the Clean Air Act. Our scoping comments for these actions were provided on April 5, 2001.

The Bureau of Reclamation (Reclamation) has prepared a draft environmental impact statement (DEIS) on the potential environmental consequences of executing an Implementation Agreement (IA) with Coachella Valley Water District (CVWD), Imperial Irrigation District (IID), the Metropolitan Water District of Southern California (MWD), and San Diego County Water Authority (SDCWA) (collectively referred to as the "California Parties"). The execution of the IA would commit the Secretary of the Interior (Secretary) to make Colorado River water deliveries in accordance with the terms and conditions of the IA which would enable the California Parties' to implement their proposed Quantification Settlement Agreement (QSA).

Federal actions include execution of the IA, wherein the Secretary approves changes in the point of delivery of up to 400,000 acre-feet (af) of Colorado River water annually from Imperial Dam to the intake of the Colorado River Aqueduct (CRA) located in Lake Havasu upstream of Parker Dam; adoption of an inadvertent overrun and payback policy (IOP), which establishes requirements for payback of inadvertent overuse of Colorado River water by the Lower Colorado River Division States; and implementation of biological conservation measures to offset potential impacts to federally listed threatened and endangered fish and wildlife species as identified in the US Fish and Wildlife Service's (FWS) Biological Opinion dated January 12, 2001.

The proposed QSA is an agreement among the California Parties for distribution and use of Colorado River water for a period of up to 75 years. The QSA and IA are integral to the successful implementation of California's Draft Colorado River Water Use Plan (CA 4.4 Plan) which was developed to ensure California limits its annual use of Colorado River water, starting in year 2016, to no more than its legal allocation of 4,400,000 af per year in normal water years. The QSA involves a series of nine water transfers, water exchanges, water conservation measures and other changes, including the Imperial Irrigation District (IID)/San Diego County Water Authority (SDCWA) Water Conservation and Transfer Project (IID/SDCWA Water Transfer). The potential environmental impacts of the QSA and IID/SDCWA Water Transfer are addressed in separate environmental impact reports/environmental impact statements. EPA will be providing comments on both of these actions and their environmental documentation.

We endorse the effort to reduce Southern California's historic use of Colorado River water to California's legal apportionment of 4.4 million acre-feet per year (maf/yr) while minimizing the adverse effects on urban and industrial water use. We commend the Bureau, California, and the other six basin states for their efforts to address the water supply limits in the Colorado River Basin. The reduction of unused apportionment and increased development in both the upper and lower basins, clearly demonstrate the potential for significant water scarcity and the need for long-term strategies to address future shortages. We recognize and support the efforts to provide flexibility to meet California's Colorado River allocation goals while ensuring adequate water supply reliability for all beneficial uses. We acknowledge and are encouraged by the shifts in water policy, management, and planning for water resources in California.

Although the IA, QSA, and IID/SDCWA Water Transfer are inextricably linked; the comment deadlines dates for these actions are sequential, making it difficult for the public, local, state, and Federal entities to provide comprehensive comments on these actions. We continue to recommend that the comment deadline dates for the three projects be more closely aligned. Our goal is to help ensure comprehensive disclosure of critical issues, concerns, and adverse impacts; and avoidance and minimization of potential impacts on the environment and other secondary and third parties.

We note that execution of the IA enables the QSA and IID/SDCWA Water Transfer and that the three projects are clearly connected actions [40 CFR 1508.25(a)(1)]. Since the IA enables the other two projects, it also provides tacit endorsement of the potential impacts of the QSA and IID/SDCWA Water Transfer actions. Although our review of the DEIR for the QSA and DEIS for the IID/SDCWA Water Transfer is not yet complete, we may have significant concerns regarding potential impacts of implementation of these actions and significant information gaps in the environmental documentation. These concerns will be described in detail in our subsequent comments on the QSA DEIR and IID/SDCWA Water Transfer DEIS.

Our current comments are in response to the evaluation of potential impacts of implementation of the IA and IOP which focuses on the impacts to the Lower Colorado River caused by the change in point of delivery and implementation of biological conservation measures. Of major concern are possible impacts to water quality, biological resources, and

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Indian tribes. We also remain significantly concerned with the potential cumulative impacts of the IA, IOP, QSA, associated water transfers, and the interim surplus guidelines (which affects the quantity and timing of releases from Lake Mead) on water quality constituents (e.g., perchlorate, selenium) and the increased probability of more frequent and higher magnitude water shortages for other users of Lower Colorado River water (see Detailed Comments).

Because of the above significant concerns, we have rated the DEIS as EC-2, Environmental Concerns - Insufficient Information (see attached "Summary of the EPA Rating System"). Detailed comments are enclosed. We appreciate the opportunity to review this DEIS. Please send three copies of the final EIS to our office when it is officially filed with our HQ EPA Office of Federal Activities. If you have any questions, please call Laura Fujii, of my staff, at 415-972-3852, email: fujii.laura@epa.gov.

Sincerely,

Lisa B. Hanf, Manager
Federal Activities Office
Cross Media Division

Enclosure: Detailed Comments (9 pages)
Summary of the EPA Rating System
Tribal Consultation Executive Order

MI003639
Filename: BORIAQSAdeis.wpd

cc: William Rinne, BOR
Carol Roberts, USFWS
Charles Fisher, IBWC
Charles Keene, CA DWR
Phil Gruenberg, RWQCB
Patricia Port, DOI
Tom Kirk, Salton Sea Authority
Arizona and California Ecological Services Field Offices, USFWS
Water Resources Division, USGS, Yuma, AZ
Sacramento and Phoenix Area Offices, BIA
Elston Grubaugh, IID
Potentially affected Indian tribes

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DETAILED COMMENTS

Water Quality Comments

Perchlorate

EPA is very concerned with the potential cumulative impacts of the proposed Implementation Agreement (IA) and related actions on perchlorate concentrations and distribution within Lake Mead and below Hoover Dam in the Colorado River. Perchlorate is of grave concern because of its potential adverse health effects. EPA considers perchlorate to be a water contaminant and is in the process of developing information that would support a specific regulatory level. Perchlorate has been on the Contaminant Candidate List for several years. As of January 2001, perchlorate was included in EPA's nationwide "Unregulated Contaminant Monitoring Requirement" for public water supplies, with a method detection level of 4 parts per billion (ppb). Nearly every sample of Colorado River water from the Las Vegas Wash to the Mexican border has exceeded 4 ppb for the last three years. This level of perchlorate is of concern because of the increased use of Colorado River water for urban use.

The California Department of Health Services (CA DHS) has recently lowered the State Action Level for perchlorate in drinking water to 4 ppb requiring water agencies to notify public officials if this level is exceeded. As the first step in developing an enforceable Primary Drinking Water Standard for California, the California Office of Environmental Health Hazard Assessment has begun accepting public comments on a draft Public Health Goal of 6 ppb for perchlorate in drinking water supplies. EPA's National Center for Environmental Assessment recently published a draft Toxicity Health Assessment recommending a dose of approximately 1 ppb as a safe level for perchlorate in drinking water. Analytical methods to reliably detect perchlorate below 4 ppb are in development for general use. The February 22, 2002 sample of the Colorado River immediately below Hoover Dam had 8 ppb of perchlorate, well above the current detection limit.

Recommendations:

We strongly recommend the IA Final Environmental Impact Statement (FEIS) provide data on the possible levels of perchlorate in Colorado River water diverted for domestic drinking water use. If no data is available, we urge Reclamation, the California Parties, and other Colorado River interests work together to develop and implement monitoring and research programs to obtain this data. The FEIS should describe existing or planned actions to obtain additional information on levels of perchlorate in Colorado River water.

We believe effective monitoring and remediation of perchlorate is needed. In the past, the US Geological Service (USGS) has provided adequate sampling and monitoring. The USGS monitoring program has been severely reduced as of October 2000 due to lack of funding. We understood that Reclamation intended to

contact the USGS regarding resumption of the monitoring program. The FEIS should state whether Reclamation has been able to sponsor the USGS monitoring program.

EPA has a vested interest in the perchlorate remediation program and in assuring the monitoring program has an adequate level of quality assurance. Please contact Kevin Mayer, Region 9 EPA, Northern California Cleanup Section, Superfund Division at 415-972-3176, email: Mayer.Kevin@epa.gov, regarding the proposed monitoring program and perchlorate remediation program.

Tribal Resources and Consultation and Coordination with Indian Tribal Governments

1. A total of thirty-five Indian Tribes could be affected by the proposed action and related actions: five tribes on the lower Colorado River, six tribes in the Salton Sea watershed, six tribes that use or may be affected by the Central Arizona Project, and 18 tribes within San Diego County. These Tribes have a major interest in water allocation, water use, and water quality within the region. For example, the Northern San Diego County Tribes water rights settlement allocate them rights over water from water conservation practices, and the Cocopah and Quechan Tribal groups have a major interest in restoration of the lower Colorado River Delta. The DEIS did not provide evidence that these tribes have been consulted or that potential impacts to tribal resources have been fully evaluated.

We note that the DEIS only evaluated the potential direct effects of Federal actions (e.g., IA) on tribal resources and did not address the indirect effects which would occur within the service areas of the participating non-Federal agencies (e.g., IID water conservation measures) (pg. 3.10-1). Although Reclamation may have limited control over these effects, the execution of the IA would enable these other actions to take place. Reclamation has a duty to evaluate potential direct and indirect impacts to tribal resources [40 CFR 1508.8(b)].

Recommendation:

We strongly recommend that all potentially affected Indian Tribes be consulted on a government-to-government basis pursuant to the Executive Order on Consultation and Coordination with Indian Tribal Governments (enclosed). For assistance with Arizona Tribes, you may contact James Fletcher, Region 9 EPA, State, Tribal, and Municipal Programs Office, 619-235-4763 (place-based in San Diego, CA) and Daniel Pingaro, Indian Programs Office, 415-972-3782. For assistance with California Tribes, you may contact Clancy Tenley, Manager of the Indian Programs Office, 415-972-3785.

2. The DEIS predicts a 5% loss of power generation at the Bureau of Indian Affairs' (BIA) Headgate Rock Dam due to the reduction in river flows. Although this reduction would not affect the ability to meet current needs, it would affect BIA's ability to meet future tribal power needs. Reclamation has concluded that power generation is not an Indian Trust Asset and has not

proposed mitigation or compensation for this power loss. While the power loss may not be an Indian Trust Asset, the proposed action will still adversely affect BIA's ability to meet their trust responsibilities to the affected tribes.

Recommendation:

We urge Reclamation to work with BIA and the affected tribes to minimize and mitigate the loss of power at Headgate Rock Dam for tribal purposes. Options that could be explored include the development of alternative power sources or compensation to BIA and the tribes paid by beneficiaries of the action.

3. Nearly 12,000 acres of the Torres Martinez Reservation lies under the existing Salton Sea and would be exposed sooner under the proposed action. The DEIS speculates that this land may be suitable for agriculture or other purposes, such as recreational uses, and could be developed by the Torres Martinez Indians (pg. 3.4-8). We note that this statement is contrary to the statement that the level of dust emissions from exposed sediments would be contingent upon the amount of human disturbance of these exposed soils (pg. 3.11-4).

Given the designation of the Salton Sea as a repository for agricultural drainage water which may contain selenium, metals, perchlorate, pesticides and other contaminants; EPA questions the ability to utilize exposed land. The Salton Sea has been sustained by agricultural drainage water for more than 60 years. Constituents of this water are not well known and may contain hazardous materials. In addition, it is believed that a large portion of the constituents may be deposited in the form of sediments in the Salton Sea.

Recommendation:

A significant amount of research and data collection is required before making a determination on the use of and potential impacts from exposed Salton Sea sediment. We recommend the FEIS describe existing research on Salton Sea sediment and the efforts to obtain more data. For instance, the Regional Water Quality Control Board has recently entered into an agreement with the Torres Martinez Band to conduct water quality sampling and sediment analysis for various constituents. If information in the IID/SDCWA Water Transfer DEIS is referenced, the IA FEIS should contain a summary of the evaluation, conclusions and mitigation measures proposed in the IID/SDCWA document.

4. The DEIS indicates there is the potential for adverse impacts to population trends and employment from decreased water levels and water quality of the Salton Sea (Table ES-1, pg. ES-28). The evaluation also states that while the loss of employment opportunities would have social consequences, it would not constitute a substantive change to the environment and a discussion of potential measures to minimize these socioeconomic impacts is not provided.

Recommendation:

The Torres Martinez Band of Desert Cahuilla have always lived in this region and would be less able to relocate for employment. Therefore, we believe an evaluation of potential measures to reduce socioeconomic impacts is important, even though these impacts may not constitute a substantive change to the environment. We urge Reclamation and project beneficiaries work with affected tribes in minimizing potential socioeconomic impacts caused by adverse effects on the Salton Sea.

Air Quality Comments

1. The DEIS states that the surface elevation of the Salton Sea is expected to decline under both the No Action and Proposed Action alternatives, exposing currently inundated lands. Under the Proposed Action, the shoreline would recede at a faster rate than under No Action. The evaluation of potential air quality impacts states that exposed Salton Sea sediments would dry with a crust covering which would minimize the ability of winds to generate dust emissions. Thus, the DEIS appears to conclude that the level of dust emissions would be dependent upon the amount of human disturbance of these exposed soils (pg. 3.11-4).

EPA is concerned with the above assumption that the exposed lake bed, caused by reduced inflows to the Salton Sea, would dry and form a crust covering which would minimize the ability of winds to generate dust emissions. EPA believes that the crust formed may breakup under natural events similar to the Owens dry lake bed in California. These natural events could come from ground water evaporation, surface moisture, or rain. These events can cause the surface to crack and, when exposed to wind, will contribute to PM-10 emissions. The Owens dry lake bed is approximately 105 square miles of which 35 square miles are highly emissive. Crust formations do accrue upon the Owens dry lake bed that can sustain the weight of a car. As the weather changes, these surfaces break up and cause the worst PM-10 emissions in the United States.

EPA has significant concerns regarding potential air quality impacts of exposed Salton Sea sediment. This concern is increased by the lack of information and data regarding constituents of the sediments and its potential behavior when exposed to high winds and human disturbance.

Recommendations:

We strongly recommend that Reclamation and the California Parties initiate a study to determine the durability and sustainability of crust formations on the exposed Salton Sea shoreline. A description of proposed data collection actions should be fully disclosed in the IA FEIS and environmental documentation for the QSA and IID/SDCWA Water Transfer. We note that the composition of the sediments and weather patterns may vary along the shoreline and affect crust formation. This fact should be considered when designing the crust formation

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study. The IA FEIS should also evaluate possible control measures for the newly exposed shoreline. Control measures could include, but are not limited to, the introduction of native plants to provide ground cover. Human disturbances along the exposed shore line should also be addressed as they too can contribute to PM-10 and dust emissions.

We also recommend that the IA FEIS contain a detailed summary of the air quality evaluation, conclusions, and proposed mitigation measures provided in the IID/SDCWA Water Transfer DEIS. We believe it is especially important to describe various air quality mitigation options for affected tribal land since this land is considered an Indian Trust Asset.

2. EPA believes that it is important and appropriate that the IA FEIS address the new eight-hour ozone standard and the new "fine" particulate matter standard (PM2.5). Although EPA has not designated nonattainment areas for either of these standards, we believe these standards may have bearing on the proposed action and the projects it will enable. Because the eight-hour ozone standard is more stringent than the one-hour ozone standard, it is likely that parts of the project area would be designated as a nonattainment area for the eight-hour ozone standard, possibly within the time frame of the proposed action. Therefore, it would be useful, and appropriate under the public disclosure requirements of NEPA, to include a discussion of the implications of the new eight-hour ozone standard with respect to the execution of the IA, QSA, and IID/SDCWA Water Transfer. EPA recognizes the serious health effects that "fine" particulates can cause, and, therefore, urges project proponents to reduce particulate emissions to the greatest extent possible. This is particularly important where the project will impact sensitive receptors, such as children and the elderly.

Recommendations:

In its discussion of air quality impacts the IA FEIS should address the following:

Affected Environment

- Include a discussion of the new eight-hour ozone standard, as well as the new PM2.5 standard. To the extent that monitoring data is available on these two criteria pollutants, include that information in the EIS.

Construction

- Reduce the use of diesel-powered equipment.
- Specify the duration and concentration of air emissions by pollutant and location for each phase of project construction.
- Identify sensitive receptors in the project area, such as children, elderly, infirm, and athletes, and schedule construction to minimize impact to these populations.
- Include mitigation measures that detail how diesel emissions will be minimized for each phase of project construction. For example, require contractors to keep the equipment fine-tuned or use alternative fueled vehicles.
- Include a fugitive dust control plan.

- Address how traffic congestion related to project construction can contribute to increased levels of carbon monoxide, especially at already congested intersections.

3. Federal agencies are required by the Clean Air Act to assure that actions conform to an approved air quality implementation plan.

Recommendation:

If the proposed project area is in a nonattainment area, Reclamation may need to demonstrate compliance with general conformity requirements of the Clean Air Act [Section 176(c)]. General Conformity Regulations can be found in 40 CFR Parts 51 and 93 (58 Federal Register, page 63214, November 30, 1993). These regulations should be examined for applicability to the proposed actions. The IA FEIS should clearly state whether a conformity determination is required and, if yes, provide a copy of the determination in the FEIS.

Biological Resources Comments

1. Biological conservation measures include restoration or creation of 44 acres of backwaters along the Colorado River between Parker Dam and Imperial Dam. While selenium levels in the Lower Colorado River may be below the Department of Interior level of concern of 5 micrograms per litter (ug/l), backwater areas could act as a sink for selenium which may then become an issue due to its bioaccumulation up the food web. We note that the level of concern is being re-evaluated and may be lowered to 2 ug/l.

Recommendation:

We recommend the IA FEIS evaluate the potential for selenium to accumulate in the proposed backwater areas. If there is potential for adverse impacts, specific backwater design criteria to minimize the problem should be explored or mitigation measures provided.

2. Under the No Action alternative, the DEIS states that Colorado River flows, and therefore water levels, from Hoover Dam to Imperial Dam would likely be lower than historic conditions, since surplus and unused apportionment waters would not be available (pg. 3.2-14). However, since these changes would be consistent with what is allowed under the current legal framework of the Law of the River, potential biological impacts are not disclosed.

Recommendation:

We recommend Reclamation consider providing an evaluation of potential impacts to biological resources which may be caused by the reduction of flows under the No Action alternative. Although these changes may be within the framework of the Law of the River, the reduction in flows could result in a loss of backwaters and riparian areas critical to maintenance of sensitive, threatened, and endangered species.

Water Supply Comments

EPA remains concerned with the probability of more frequent and higher magnitude water shortages to other users of Lower Colorado River water caused by cumulative effects of the interim surplus guidelines, IA, QSA, the proposed water transfers, and build out of the upper and lower basins. For instance, adequate water supply for the Central Arizona Project (CAP) could be significantly reduced since it has the lowest priority water rights. Thus, the CAP would be the first to experience shortages and could be reduced to zero allocation prior to shortages for other higher priority users.

The Interim Surplus Guidelines FEIS indicated that forbearance arrangements made by the Lower Division states and individual contractors were being considered to address potential increased shortages for specific users (pg. 2-13, Interim Surplus Guidelines FEIS). For instance, California had proposed reparation to Arizona for increased shortages (pg. B-232, responses to comment letter 56).

Recommendation:

We recommend Reclamation provide information in the IA FEIS on these potential reparation and/or forbearance agreements and commit to facilitating the development of mitigation measures for potential increased water supply shortages.

National Environmental Policy Act Comments

The range of alternatives evaluated in the DEIS is very limited, including only the Proposed Action and No Action (executing the IA or not executing the IA). Execution of the IA would enable the QSA and its associated IID/SDCWA Water Transfer. It is our understanding that the environmental documentation for these projects evaluate a number of alternatives which would also require Secretarial approval for a change in delivery point and water use. If this is the case, it is not clear why Reclamation has not included these other potential alternatives in its range of alternatives for the IA.

Recommendations:

The IA FEIS should justify Action and No Action as a reasonable range of alternatives pursuant to NEPA [40 CFR 1502.14(a) and (c)]. Commitments to future environmental documentation, if any, should be clearly stated.

We also recommend the FEIS evaluate what actions and projects could go forward without the IA, QSA, and Interim Surplus Guidelines. For instance, it is our understanding that the IID/SDCWA water transfer, as originally formulated in the 1998 IID/SDCWA water transfer agreement, could still move forward without the QSA. Furthermore, surplus water, albeit under more constrained conditions, could still be declared by the Secretary without the Interim Surplus Guidelines.

Comments Specific to Implementation of an Inadvertent Overrun and Payback Policy

Given the growing need to ensure a sustainable balance between existing water supplies and demand, EPA supports the effort to define inadvertent overruns, establish accounting procedures, and define payback requirements. We believe payback of the water overruns, as soon as possible (e.g., in the next calendar year), regardless of the water year type or declaration of flood flows and surplus, is critical due to the potential for significant water scarcity and the need for long-term strategies to address future shortages. We support the use of extraordinary conservation measures as one means of obtaining adequate payback of inadvertent overruns to the mainstream of the Colorado River.

1. Use of extraordinary conservation measures are recommended as the means to obtain payback water. Such measures may not always be feasible.

Recommendation:

The FEIS should include a description of possible water supply backup options for payback water in case the proposed extraordinary conservation measures are not feasible or sufficient to provide the required makeup water. For example, we recommend consideration of water transfers, temporary or permanent fallowing, and groundwater banking. We advocate aggressive conservation and management flexibility to achieve equitable water supply allocation and a sustainable balance between water supply and demand.

General Comments

1. The IA would provide for transfer of conserved water to CVWD, SDCWA, and MWD for groundwater recharge and urban use (Chapter 2). This water would replace Colorado River water that is no longer available (e.g., unused apportionment and surplus water). Thus, the DEIS concludes that there would be no induced growth or impact to population (Section 3.7). EPA remains concerned with the potential for growth and the need to ensure a sustainable balance between existing water supply and demand.

Recommendations:

To maximize water supply benefits and project flexibility, we urge Reclamation and other Federal Agencies to work with the CVWD, IID, MWD, SDCWA to consider and integrate all available tools for enhancing water management flexibility, supply reliability, and water quality. EPA advocates integration of aggressive water conservation and management practices into the IA and QSA. For instance, we recommend Reclamation consider including specific criteria in the IA to ensure that delivered water is effectively used.

We also recommend the IA FEIS provide a more in-depth discussion of water use efficiency measures that have been or could be implemented by MWD, CVWD, and SDCWA.

2. It is well known that Colorado River water supply actions are often complex and controversial. Thus, we are pleased with the description of major proposed and related Federal and State actions in the Lower Colorado River region provided in Chapter 1. While this description is helpful, a discussion of how these projects and actions interrelate, why they are being implemented, and their effects on each other would significantly help minimize confusion, clarify issues, and provide supporting rational for the IA and QSA.

Recommendations:

We recommend the IA FEIS discuss how all the projects and actions interrelate, how they affect each other, how they fit into the larger picture of California and Lower Colorado River water supply allocation and management and why these actions are being implemented. For example, describe the potential affect of the TMDL program, which may implement water conservation measures, on efforts to improve water use efficiency in the Imperial Valley.

An evaluation of the relationships between the IA, QSA, and IID/SDCWA Water Transfer is of immediate importance since all three projects have been released for public review. For instance, the FEIS should clearly state what each project environmental document evaluates and its focus (e.g., lower Colorado River, Salton Sea, or Coachella Valley impacts) and why.

3. The DEIS frequently refers to evaluations contained in other environmental documents (e.g., IID/SDCWA Water Transfer) without providing a summary of these evaluations. A major objective of NEPA is full disclosure to help public officials and the public make better decisions. Thus, it is critical that a complete picture of the IA and the actions it enables (e.g., QSA, IID/SDCWA Water Transfer) should be provided in the EIS.

Recommendation:

We strongly recommend the IA FEIS include a summary of the issues and environmental consequences of other projects referenced in the IA DEIS.

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.

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."

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THE WHITE HOUSE

Office of the Press Secretary

For Immediate Release
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November 6, 200

EXECUTIVE ORDER

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CONSULTATION AND COORDINATION
WITH INDIAN TRIBAL GOVERNMENTS

RECEIVED
APR 22 2002
SAIC SANTA BARBARA

By the authority vested in me as President by the Constitution and the laws of the United States of America, and in order to establish regular and meaningful consultation and collaboration with tribal officials in the development of Federal policies that have tribal implications, to strengthen the United States government-to-government relationships with Indian tribes, and to reduce the imposition of unfunded mandates upon Indian tribes; it is hereby ordered as follows:

Section 1. Definitions. For purposes of this order:

(a) "Policies that have tribal implications" refers to regulations, legislative comments or proposed legislation, and other policy statements or actions that have substantial direct effects on one or more Indian tribes, on the relationship between the Federal Government and Indian tribes, or on the distribution of power and responsibilities between the Federal Government and Indian tribes.

(b) "Indian tribe" means an Indian or Alaska Native tribe, band, nation, pueblo, village, or community that the Secretary of the Interior acknowledges to exist as an Indian tribe pursuant to the Federally Recognized Indian Tribe List Act of 1994, 25 U.S.C. 479a.

(c) "Agency" means any authority of the United States that is an "agency" under 44 U.S.C. 3502(1), other than those considered to be independent regulatory agencies, as defined in 44 U.S.C. 3502(5).

(d) "Tribal officials" means elected or duly appointed officials of Indian tribal governments or authorized intertribal organizations.

Sec. 2. Fundamental Principles. In formulating or implementing policies that have tribal implications, agencies shall be guided by the following fundamental principles:

Page 1

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(a) The United States has a unique legal relationship with Indian tribal governments as set forth in the Constitution of the United States, treaties, statutes, Executive Orders, and court decisions. Since the formation of the Union, the United States has recognized Indian tribes as domestic dependent nations under its protection. The Federal Government has enacted numerous statutes and promulgated numerous regulations that establish and define a trust relationship wit h
Indian tribes.

(b) Our Nation, under the law of the United States, in accordance with treaties, statutes, Executive Orders, and judicial decisions, has recognized the right of Indian tribes to self-government. As domestic dependent nations, Indian tribes exercise inherent sovereign powers ove r
their members and territory. The United States continues to work with Indian tribes on a government-to-government basis to address issues concerning Indian tribal self-government, tribal trust resources, and Indian tribal treaty and other rights.

(c) The United States recognizes the right of Indian tribes to self-government and supports tribal sovereignty and self-determination.

Sec. 3. Policymaking Criteria. In addition to adhering to the fundamental principles set forth in section 2, agencies shall adhere, t o
the extent permitted by law, to the following criteria when formulating and implementing policies that have tribal implications:

(a) Agencies shall respect Indian tribal self-government and sovereignty, honor tribal treaty and other rights, and strive to meet the responsibilities that arise from the unique legal relationship between the Federal Government and Indian tribal governments.

(b) With respect to Federal statutes and regulations administered by Indian tribal governments, the Federal Government shall grant Indian tribal governments the maximum administrative discretion possible.

(c) When undertaking to formulate and implement policies that have tribal implications, agencies shall:

(1) encourage Indian tribes to develop their own policies to achieve
program objectives;

(2) where possible, defer to Indian tribes to establish standards
;
and

(3) in determining whether to establish Federal standards, consul
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with tribal officials as to the need for Federal standards an

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any alternatives that would limit the scope of Federal standards or otherwise preserve the prerogatives and authorit
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of Indian tribes.

Sec. 4. Special Requirements for Legislative Proposals. Agencies shall not submit to the Congress legislation that would be inconsistent with the policymaking criteria in Section 3.

Sec. 5. Consultation. (a) Each agency shall have an accountable process to ensure meaningful and timely input by tribal officials in th
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development of regulatory policies that have tribal implications. Within 30 days after the effective date of this order, the head of each agency shall designate an official with principal responsibility for th
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agency's implementation of this order. Within 60 days of the effective date of this order, the designated official shall submit to the Office of Management and Budget (OMB) a description of the agency's consultation process.

(b) To the extent practicable and permitted by law, no agency shal
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promulgate any regulation that has tribal implications, that imposes substantial direct compliance costs on Indian tribal governments, and that is not required by statute, unless:

(1) funds necessary to pay the direct costs incurred by the India
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tribal government or the tribe in complying with the regulation are provided by the Federal Government; or

(2) the agency, prior to the formal promulgation of the regulation
,

(A) consulted with tribal officials early in the process of developing the proposed regulation;

(B) in a separately identified portion of the preamble to th
e

regulation as it is to be issued in the Federal Register
,

provides to the Director of OMB a tribal summary impact statement, which consists of a description of the extent of the agency's prior consultation with tribal officials
,

a summary of the nature of their concerns and the agency's position supporting the need to issue the regulation, and a statement of the extent to which the concerns of tribal officials have been met; and

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(C) makes available to the Director of OMB any written communications submitted to the agency by tribal officials.

(c) To the extent practicable and permitted by law, no agency shal
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promulgate any regulation that has tribal implications and that preempts tribal law unless the agency, prior to the formal promulgation of the regulation,

(1) consulted with tribal officials early in the process of developing the proposed regulation;

(2) in a separately identified portion of the preamble to the regulation as it is to be issued in the Federal Register, provides to the Director of OMB a tribal summary impact statement, which consists of a description of the extent of the agency's prior consultation with tribal officials, a summary of the nature of their concerns and the agency's position supporting the need to issue the regulation, and a statement of the extent to which the concerns of tribal officials have been met; and

(3) makes available to the Director of OMB any written communications submitted to the agency by tribal officials.

(d) On issues relating to tribal self-government, tribal trust resources, or Indian tribal treaty and other rights, each agency should explore and, where appropriate, use consensual mechanisms for developin
g
regulations, including negotiated rulemaking.

Sec. 6. Increasing Flexibility for Indian Tribal Waivers.

(a) Agencies shall review the processes under which Indian tribes apply for waivers of statutory and regulatory requirements and take appropriate steps to streamline those processes.

(b) Each agency shall, to the extent practicable and permitted by law, consider any application by an Indian tribe for a waiver of statutory or regulatory requirements in connection with any program administered by the agency with a general view toward increasing opportunities for utilizing flexible policy approaches at the Indian tribal level in cases in which the proposed waiver is consistent with the applicable Federal policy objectives and is otherwise appropriate.

(c) Each agency shall, to the extent practicable and permitted by law, render a decision upon a complete application for a waiver within 120 days of receipt of such application by the agency, or as otherwise provided by law or regulation. If the application for waiver is not granted, the agency shall provide the applicant with timely written notice of the decision and the reasons therefor.

O

(d) This section applies only to statutory or regulatory requirements that are discretionary and subject to waiver by the agency .

Sec. 7. Accountability.

(a) In transmitting any draft final regulation that has tribal implications to OMB pursuant to Executive Order 12866 of September 30, 1993, each agency shall include a certification from the official designated to ensure compliance with this order stating that the requirements of this order have been met in a meaningful and timely manner.

(b) In transmitting proposed legislation that has tribal implications to OMB, each agency shall include a certification from the official designated to ensure compliance with this order that all relevant requirements of this order have been met.

(c) Within 180 days after the effective date of this order the Director of OMB and the Assistant to the President for Intergovernmenta l
Affairs shall confer with tribal officials to ensure that this order is being properly and effectively implemented.

Sec. 8. Independent Agencies. Independent regulatory agencies ar e
encouraged to comply with the provisions of this order.

Sec. 9. General Provisions. (a) This order shall supplement but not supersede the requirements contained in Executive Order 12866 (Regulatory Planning and Review), Executive Order 12988 (Civil Justice Reform), OMB Circular A-19, and the Executive Memorandum of April 29, 1994, on Government-to-Government Relations with Native American Tribal Governments.

(b) This order shall complement the consultation and waiver provisions in sections 6 and 7 of Executive Order 13132 (Federalism).

(c) Executive Order 13084 (Consultation and Coordination with Indian Tribal Governments) is revoked at the time this order takes effect.

(d) This order shall be effective 60 days after the date of this order.

Sec. 10. Judicial Review. This order is intended only to improve the internal management of the executive branch, and is not intended to create any right, benefit, or trust responsibility, substantive or procedural, enforceable at law by a party against the United States, it s
agencies, or any person.

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WILLIAM J. CLINTON

THE WHITE HOUSE,
November 6, 2000.

# # #

United States
Environmental Protection
Agency

Federal Activities
(2251A)

April 1998

EPA

Guidance for Incorporating Environmental Justice Concerns in EPA's NEPA Compliance Analyses

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GUIDANCE FOR INCORPORATING ENVIRONMENTAL JUSTICE CONCERNS IN EPA'S NEPA COMPLIANCE ANALYSES

April 1998

U.S. Environmental Protection Agency
Office of Federal Activities
401 M Street S.W.
Washington, D.C. 20460

DISCLAIMER AND ACKNOWLEDGMENTS

The mention of company or product names is not to be considered an endorsement by the U.S. Government or by the Environmental Protection Agency. With the technical assistance of Science Applications International Corporation (SAIC), this document was prepared in partial fulfillment of EPA Contract 68-WE-0026, Work Assignment 72-IV.

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This guidance is intended to improve the internal management of EPA with respect to environmental justice under NEPA. It will not be deemed to create any right, benefit or trust obligation either substantive or procedural, enforceable by any person, or entity in any court against the agency, its officers, or any other person. Compliance with this guidance will not be justiciable in any proceeding for judicial review of agency action.

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1.0 PURPOSE

On February 11, 1994, President Clinton issued Executive Order 12898, "Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations." This Executive Order is designed to focus the attention of federal agencies on the human health and environmental conditions in minority communities and low-income communities. It requires federal agencies to adopt strategies to address environmental justice concerns within the context of agency operations. In an accompanying Presidential memorandum, the President emphasizes existing laws, including the National Environmental Policy Act (NEPA) should provide opportunities for federal agencies to address environmental hazards in minority communities and low-income communities. In April of 1995, the U.S. Environmental Protection Agency (EPA) released the document titled "Environmental Justice Strategy: Executive Order 12898." The document defines the approaches by which EPA will ensure that disproportionately high and adverse human health or environmental effects on minority communities and low-income communities are identified and addressed. It establishes Agency-wide goals for American Indian, Alaska Native, and other indigenous peoples (e.g., Native Hawaiian). It also establishes Agency-wide goals for environmental protection, and lists actions the EPA would take to incorporate environmental justice into its mission.

In August 1997, the EPA Office of Environmental Justice released the "Environmental Justice Implementation Plan." The Implementation Plan supplements the EPA environmental justice strategy. It provides estimated time frames for undertaking revisions, identifying the lead agents and determining the measures of success for each action item. Several EPA offices are developing more specific plans and guidance to implement Executive Order 12898 and this Agency-wide strategy.

This document serves as a guidance to incorporate environmental justice goals into EPA's preparation of environmental impact statements (EISs) and environmental assessments (EAs) under NEPA. The National Environmental Policy Act of 1969 (42 U.S.C. §4321 et seq.) serves as the Nation's basic environmental protection charter. A primary purpose of NEPA is to ensure that federal agencies consider the environmental consequences of their actions and decisions as they conduct their respective missions. For "major Federal actions significantly affecting the quality of the human environment," the federal agency must prepare a detailed environmental impact statement (EIS) that assesses the proposed action and all reasonable alternatives. EISs are required to be broad in scope, addressing the full range of potential effects of the proposed action on human health and the environment. Regulations established by both the Council on Environmental Quality (CEQ) and EPA require that socioeconomic impacts associated with significant physical environmental impacts be addressed in the EIS.

Environmental assessments have also become very important components of the NEPA process. Originally intended to serve as a mechanism for determining whether an agency's action was significant, thereby meriting an EIS, EAs are important analyses on their own. As a matter of policy, EAs completed by EPA regularly address socioeconomic effects associated with environmental impacts of Agency actions.

The purpose of this guidance is to assist EPA staff responsible for developing EPA NEPA compliance documentation, including EISs and EAs, in addressing a specific concern -- that of environmental justice.

its programs, policies, and activities on minority populations and low-income populations ..."[1] The Executive Order also explicitly called for the application of equal consideration for Native American programs. To meet these goals, the Order specified that each agency develop an agency-wide environmental justice strategy.

The Presidential Memorandum that accompanied the Executive Order calls for a variety of actions. Four specific actions were directed at NEPA-related activities, including:

1. Each federal agency must analyze environmental effects, including human health, economic, and social effects, of federal actions, including effects on minority communities and low-income communities, when such analysis is required by NEPA.

2. Mitigation measures outlined or analyzed in EAs, EISs, or Records of Decision (RODs), whenever feasible, should address significant and adverse environmental effects of proposed federal actions on minority communities and low-income communities.

3. Each federal agency must provide opportunities for community input in the NEPA process, including identifying potential effects and mitigation measures in consultation with affected communities and improving accessibility of public meetings, official documents, and notices to affected communities.

4. In reviewing other agencies' proposed actions under Section 309 of the Clean Air Act, EPA must ensure that the agencies have fully analyzed environmental effects on minority communities and low-income communities, including human health, social, and economic effects.

As noted earlier, the purpose of this guidance is to assist EPA personnel in identifying and evaluating disproportionately high and adverse human health or environmental effects in minority communities and low-income communities within the context of NEPA documents prepared by EPA for actions which EPA complies with the procedural requirements of NEPA (*e.g.*, research and development activities, facilities construction, wastewater treatment construction grants, EPA-issued National Pollutant Discharge Elimination System (NPDES) permits for new sources, and programs under the EPA Voluntary NEPA Compliance Policy), including instances where EPA satisfies its NEPA compliance obligation as a cooperating agency. It is also meant to improve the affected communities' access to the NEPA process.

1.2 PRINCIPLES/PHILOSOPHY OF THIS GUIDANCE

This guidance highlights important ways in which EPA-prepared NEPA documentation may help to identify and address EJ concerns. The rationale and associated implications of the guidance will be described in the remainder of this document. This section provides a summary listing of the major implications.

[1] Throughout this guidance, the term "disproportionately high and adverse effects" is used interchangeably with the longer phrase "disproportionately high and adverse human health or environmental effects on minority populations and low-income populations." This is done purely for editorial ease.

- Identifying the "affected community" is particularly important. The effects of the proposed action will often vary depending on the distance of the affected community from the action and the type of effect created by the action (*e.g.*, airborne or waterborne pollution, increased traffic, etc.). Effects on the community should be discussed in terms of reasonable increments from the site of the action.

- Community involvement is particularly important in cases involving potential environmental justice issues. Early and sustained communications with the affected community throughout the NEPA process is an essential component of environmental justice.

- For meaningful community involvement to be achieved in circumstances where environmental justice is an issue, technical assistance supplied by EPA should be available to the community to assist in their full participation (e.g., interpretation of scientific documents, development of alternatives or mitigation measures).

- EISs and RODs, and EAs and FONSIs (Finding of No Significant Impact) should document the analyses used to identify the presence or absence of disproportionately high and adverse effects and present the results of those analyses. The ROD and the FONSI should document the conclusion of these analyses (i.e., whether the action will or will not have a disproportionately high and adverse effect on minority and/or low-income communities) and describe any mitigation that will be undertaken to avoid or minimize such effects.

1.2.1 EPA Actions Requiring NEPA Compliance

EPA is required to comply with NEPA for its research and development activities, facilities construction, wastewater treatment construction grants under Title II of the Clean Water Act and under certain Appropriations Acts, and EPA-issued National Pollutant Discharge Elimination System (NPDES) permits for new sources subject to new source performance standards. The Agency is exempted by statute for actions taken under the Clean Air Act and for most Clean Water Act programs. The Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), requires EPA to comply only with the substantive, not the procedural, requirements of other environmental laws for on-site responses. In the case of other EPA programs, the courts have found EPA procedures to be "functionally equivalent" to the NEPA process and therefore these EPA programs are exempt from NEPA procedural requirements. Also, EPA voluntarily prepares EISs for a number of actions pursuant to a long-standing statement of Agency policy.

Exhibit 1 identifies EPA's major program areas and indicates which actions are subject to NEPA, which Congress has exempted from NEPA, which have been found to be functionally equivalent to NEPA, and which receive NEPA-like analyses. This guidance is applicable solely to EPA programs and actions subject to NEPA and not those identified as "functionally equivalent" in Exhibit 1. However, this should not preclude its use as reference where "functionally equivalent" programs or actions processes may benefit from the information contained therein.

Exhibit 1. Summary of EPA Program NEPA Requirements and Equivalent or Voluntary Activities (continued)

EPA Program Areas	NEPA Requirement	Functional NEPA Equivalent	Voluntary EIS Policy
Clean Water Act Programs (continued)			
State Revolving Loan Fund	NEPA-like review by states required for all CWA §212 projects receiving federal funds. 40 CFR 35.3140.	N/A	N/A
National Estuary Program	Exempt per CWA §511(c)(1)	Environmental review for estuary designation and CCMP development are functional equivalent	N/A
Ocean Discharge Program	Generally exempt per CWA §511(c)(1)	§§301(h) and 403 processes are functional equivalent	N/A
Ocean Dumping Program	Exempt on basis of functional equivalency	MPRSA activities are functional equivalent	Ocean dumping site designations and revisions to ocean dumping criteria.
Effluent Guidelines Program	Exempt per CWA §511(c)(1)	Effluent Guidelines rule-making package is functional equivalent	N/A
Safe Drinking Water Act			
Drinking Water and Underground Injection Control (UIC) Regulations	SDWA procedures are functional equivalent	Regulation development process is functional equivalent	N/A
EPA and Authorized State Permitting - UIC Permits	Permitting process is functional equivalent	The UIC permitting process is functional equivalent.	N/A

(continued)

Exhibit 1. Summary of EPA Program NEPA Requirements and Equivalent or Voluntary Activities (continued)

EPA Program Areas	NEPA Requirement	Functional NEPA Equivalent	Voluntary EIS Policy
CERCLA/SARA (Superfund)			
CERCLA/SARA (Superfund) (CERCLA 1980 as amended by SARA 1986)	Exempt per CERCLA requirement that EPA only comply with the substantive, requirements of other environmental laws for on-site responses (see *State of Ohio v. EPA*).	Remedial Investigation/ Feasibility Study (RI/FS)	N/A
EPA Research and Development Activities			
EPA Research and Development Activities	Subject per CEQ regulations and 40 CFR 6 Subpart G.	See NEPA requirement	N/A
EPA Facilities			
EPA Facilities Construction	Subject per CEQ regulations (40 CFR 1500-1508) and 40 CFR Part 6.	See NEPA requirement	N/A
Other EPA Programs			
International Activities	Governed by E.O. 12114, Environmental Effects Abroad of Major Federal Actions (as implemented at 40 CFR Part 6, Subpart J) and, in some cases, NEPA.	See NEPA requirement	US AID-funded projects.
Appropriations Acts may also result in NEPA requirements.			

Source: Adapted from "The National Environmental Policy Act and Environmental Protection Agency Programs," prepared by the EPA Workgroup on NEPA, October 12, 1993.

2.0 KEY TERMS AND FACTORS FOR CONSIDERATION IN EVALUATING ENVIRONMENTAL JUSTICE CONCERNS

The purpose of this section is to introduce key terms and concepts to heighten the EPA analyst's awareness of how disproportionately high and adverse effects may be identified. The discussion is based on guidance prepared by a task force of the Interagency Working Group on Environmental Justice (IWG). The IWG was created by Executive Order 12898 and is comprised of the heads (or representatives) of 17 departments and agencies.

The identification and analysis of disproportionately high and adverse human health or environmental effects on minority communities and low-income communities should occur throughout the NEPA process, from the initial phases of the screening analysis through the consideration and communication of all alternatives and associated mitigation techniques.

In conducting an EPA NEPA analysis that is sensitive to environmental justice concerns, the inter-disciplinary team of EPA NEPA analysts should have an understanding of key terms central to environmental justice and should understand what factors need to be considered to ensure that all relevant concerns are identified and evaluated in a direct and explicit manner. The team should include experts familiar with available and appropriate public participation procedures and strategies and, where such concerns may arise, individuals familiar with the unique concerns of Native American Tribes and populations. Developing a keen sensitivity to potential environmental justice concerns and modifying the scope of the analysis can have a dramatic impact on whether environmental justice concerns are identified and addressed adequately and appropriately. Therefore, the EPA NEPA analyst must be sensitive to what issues and factors to look for to avoid the possibility that disproportionately high and adverse effects may be inadvertently missed, incorrectly characterized, or inappropriately minimized. So as to avoid potential oversights of environmental justice concerns, the EPA NEPA analyst should work closely with the affected community in drafting an EIS or EA, and where the community's concerns warrant, EPA should formalize this interaction (e.g., community advisory boards).

Appendix A includes the Council on Environmental Quality's (CEQ's) "Environmental Justice Guidance Under the National Environmental Policy Act" which incorporates the IWG-developed guidance on key terms in Executive Order 12898 that are pertinent to environmental justice analyses. That guidance was developed to assist federal agencies in conducting analyses of disproportionately high and adverse effects of their programs, policies, and activities. The guidance is not static but provides for informed judgment in every case; this means that EPA NEPA analysts will need to make careful decisions to ensure that environmental justice concerns are identified and addressed.

The remainder of this chapter is organized into two sections. The first section addresses terms that should be considered in identifying the existence of minority communities or low-income communities. The second section identifies factors that often are associated with disproportionately high and adverse effects, including cumulative and indirect impacts, on minority or low-income members of the larger community. Methodological approaches for conducting analyses appear in Chapter 5.

The IWG guidance also advises agencies to consider both groups of individuals living in geographic proximity to one another, or a geographically dispersed/transient set of individuals, where either type of group "experiences common conditions" of environmental exposure or effect within the guidance provided for minority population. This can result from cultural practices, educational backgrounds, or the median age of community residents (*e.g.*, disproportionate numbers of elderly residents, children, or women of child bearing age may be more susceptible to environmental risks).

A factor that should be considered in assessing the presence of a minority community is that a minority group comprising a relatively small percentage of the total population surrounding the project may experience a disproportionately high and adverse effect. This can result due to the group's use of, or dependence on, potentially affected natural resources, or due to the group's daily or cumulative exposure to environmental pollutants as a result of their close proximity to the source. The data may show that a distinct minority population may be below the thresholds defined in the IWG key terms guidance on minority population. However, as a result of particular cultural practices, that population may experience disproportionately high and adverse effects. For example, the construction of a new treatment plant that will discharge to a river or stream used by subsistence anglers may affect that portion of the total population. Also, potential effects to on- or off-reservation tribal resources (e.g., treaty-protected resources, cultural resources and/or sacred sites) may disproportionately affect the local Native American community and implicate the federal trust responsibility to tribes.[5] The EPA NEPA analyst should look at each situation on a case-by-case basis to determine if there may be disproportionately high and adverse effects on a minority population.

The EPA NEPA analyst should make every effort to identify the presence of distinct minority communities residing both within, and in close proximity to, the proposed project, and to identify those minority groups which utilize or are dependent upon natural resources that could be potentially affected by the proposed action. Non-traditional data gathering techniques, including outreach to community-based organizations and tribal governments early in the screening process, may be the best approach for

[5] A distinction must be made between Native American communities that live within their own governmental jurisdictions and those that do not. The CEQ regulations recognize the government-to-government relationship between the federal government and tribal governments, and encourage federal agencies to involve tribal governments in the NEPA process when a proposed project may affect a tribe or tribal lands. See sections 1501.2 [Apply NEPA Early In The Process]; 1501.7(a)(1) [Scoping]; 1502.16 [Environmental Consequences]; 1503.1(a)(2)(ii) [Inviting Comments]; 1506.6(b)(3)(ii) [Public Involvement]; and 1508.5 [Cooperating Agency]. Native American programs include those Federal programs which are to be guided, as appropriate, by the government-to-government relationship, the Federal trust responsibility to federally recognized Indian Tribes, and the role of tribes as governments within the Federal system.

NEPA Compliance Coordinators should consult with the regional Indian Program Coordinator and should request that the Indian Tribes seek participation as a cooperating agency when a tribal government, land, resources, or interest may be affected by a project. While such cases may or may not trigger an environmental justice review, EPA must act consistent with the federal government's trust responsibility to federally recognized Indian Tribes. Each case should be decided individually; if questions arise please consult with the American Indian Environmental Office and the Office of Federal Activities.

Local resources and state governments can both be contacted for information regarding factors that are characteristic of low-income communities and which may assist in identifying these communities. These factors may include: limited access to health care, an inadequate, overburdened or aged infrastructure, and particular dependence of the community, or components of the community, on subsistence living (*e.g.*, subsistence fishing, hunting, gathering or farming). In some cases, these factors can be evaluated directly from traditional information sources. For example, the age and condition of water treatment facilities and presence of lead service lines should be available from municipal utilities. Outreach to community groups may be the most reliable data collection method in other cases, such as those where the degree to which the cultural and dietary habits of low-income or minority families and their economic condition dictate subsistence living. Consequently, where the community median household income may exceed that of the poverty line, conditions generally associated with low-income communities may be present, resulting in cumulative effects that may meet the threshold for environmental justice concerns.

Commercial database firms are often capable of tailoring census data information of human communities and income/poverty level to specified areas of geographic detail. For example, by manipulating specified census bureau tract data with customized buffer areas, statistics can be generated to accommodate current growth estimates from local government agencies or planning departments. Locational/distributional tools are also capable of determining the locations of certain human communities. Examples include maps, aerial photographs, and geographical information systems (GIS). Further explanations of these tools are presented in Chapter 5.

- Potential for aggravated susceptibility due to existing air pollution (in urban areas), lead poisoning, existence of abandoned toxic sites.

- Frequency of impacts.

Source data, including historical, existing, and projected sources, yielding projected effects in concert with that from the resulting proposed action should be analyzed with respect to minority or low-income receptors. As noted above, these include cultural, health and occupation-related variables such as:

- Health data reflective of the community (*e.g.*, abnormal cancer rates, infant and childhood mortality, low birth weight rate, blood-lead levels).

- Occupational exposures to environmental stresses which may exceed those experienced by the general population.

- Diets, or differential patterns of consumption of natural resources[6], which may suggest increased exposures to environmental pathways presenting potential health risk.

The EPA NEPA analyst may have difficulty in determining the point at which stress levels become too great, exceeding risk thresholds. This lack of a definitive threshold should encourage the EPA NEPA analyst to compare the cumulative effects of multiple actions with appropriate community, regional, state, or national goals, standards, etc. to determine whether the total effect is significant.

With respect to natural resources, analysts should look to the community's dependence on natural resources for its economic base (*e.g.*, tourism and cash crops) as well as the cultural values that the community and/or Indian Tribe may place on a natural resource at risk. Further, it is essential for the EPA NEPA analyst to consider the cumulative impacts from the perspective of these specific resources or ecosystems which are vital to the communities of interest.

Several methods for determining cumulative effects are described within CEQ's January 1997 handbook entitled, "Considering Effects Under the National Environmental Policy Act." The EPA NEPA analyst may wish to consider these methods in assessing cumulative effects on low-income and/or minority communities.

In the process of determining future actions, for example, it is essential for the EPA NEPA analyst to apply judgment and experience, to go beyond the number of projects that are funded in the area, and predict which of the actions in the early planning stage have realistic potential to move forward. The EPA NEPA analyst should use the best available information from similar projects in the region and also consult with local government planning agencies which may have master development plans in the region. In addition, private land-owners and organizations may be willing to disclose their future land use plans.

Although cumulative effects analyses commonly involve assumptions and uncertainties, exhausting all applicable analyses will provide the greatest likelihood of accurately depicting the possibility of disproportionately high and adverse effects on low-income and/or minority communities. Analysts should be as resourceful as possible in addition to seeking information from traditional sources. Decisions should

[6] The IWG key terms guidance describes differential patterns of consumption of natural resources as relating to "subsistence and differential patterns of subsistence, and means differences in rates and /or patterns of fish, water, vegetation and/or wildlife consumption among minority populations or low-income populations, as compared to the general population."

The EPA NEPA analyst should include individuals who are familiar with collecting and analyzing data that assesses the potential environmental and human health risks potentially borne by minority and low-income communities as a result of the project or activity. EPA NEPA analysts gain a better understanding of potential environmental risks to the community by directly using effective public participation and consultation techniques. An assessment of such potential risks should then be used to determine whether disproportionately high and adverse effects may be borne by minority communities or low-income communities.

2.3 SUMMARY OF FACTORS TO CONSIDER IN ENVIRONMENTAL JUSTICE ANALYSES

This section provides an overview of many of the factors that should be considered when identifying and evaluating environmental justice concerns. Given the subjective nature of some of the elements that are important to environmental justice analyses, some consideration of the *factors* or characteristics that may lead to disproportionately high and adverse effects to a community may prove to be useful when conducting such analyses. EPA's Office of Environmental Justice points out that an understanding of the underlying factors that contribute to environmental justice concerns allows for a more thorough identification of the concerns and the development of more effective mitigation measures.

In focusing the identification of environmental justice concerns, the EPA NEPA analyst may approach the analysis of environmental justice from three vantage points: 1) whether there exists a potential for disproportionate risk; 2) whether communities have been sufficiently involved in the decision-making process; and 3) whether communities currently suffer, or have historically suffered, from environmental and health risks or hazards. The factors listed in this section are provided within the context of these three approaches for identifying potential environmental justice concerns and provide the EPA NEPA analyst with a starting point in determining what factors to consider in an environmental justice assessment. However, almost every situation will have its own nuances. As such, the EPA NEPA analyst should be prepared to apply these factors flexibly to fit a specific situation, just as the IWG guidance provided above may require judgments to ensure that communities are defined in a fair manner (See Exhibit 3 for Summary of Factors).

Exhibit 2. SUMMARY OF FACTORS TO CONSIDER IN ENVIRONMENTAL JUSTICE ANALYSIS

ECONOMIC FACTORS

Economic factors can be divided into two categories: the economic condition of the individuals in the community in question, and the overall economic base of the community. The economic condition of the individuals in the population, if poor, may exacerbate risk factors and may preclude avoidance of risk factors. The economic condition of the community at large may result in situations that preclude the local government's ability to adequately protect the population or may promote the acceptance of disproportionately high and adverse effects. Such factors include, but are not limited to:

Individual Economic Conditions **Income Level / Health Care Access**	This includes such issues as whether affordable or free quality health care is available and, whether any cultural barriers exist to seeking health care. Many low-income and/or minority communities lack adequate levels and quality of health care, often due to lack of resources or lack of access to health care facilities.
Infrastructure Conditions	Consideration should be given to whether existing infrastructure provides sufficient protection from adverse impacts (*e.g.*, protection of domestic water supply, especially if the community relies on public or non-public drinking wells or surface water; adequacy of sewage facilities) and the effect that new facilities may have on the ability of existing infrastructure to be reliable and provide adequate protection. In many low-income and/or minority communities, historic allocation of resources has resulted in inadequate infrastructure development and maintenance.
Life-Support Resources	This includes subsistence living situations (*e.g.*, subsistence fishing, hunting, gathering, farming), diet, and other differential patterns of consumption of natural resources. If a community is reliant on consumption of natural resources, such as subsistence fishing, an additional exposure pathway may be associated with the community that is not relevant to the population at large. Similarly, dietary practices within a community or ethnic group, such as a diet low in certain vitamins and minerals, may increase risk factors for that group.
Distribution of Costs	Consideration of the distribution of costs to pay for environmental projects to the extent that regulations and programs are paid for by user fees on necessary goods and services (*e.g.*, sewer and water bills, garbage services, electric bills, gasoline taxes). These have a substantial negative effect on low-income families who must pay a disproportionate fraction of their income for these goods and services, the addition of user fees for another plant or facility may add to the disparate treatment of those individuals.
Community Economic Base **Industrial**	Reliance on polluting industries for jobs and economic development. If the community is reliant on polluting industries for jobs and tax revenue, there may be reluctance to take actions that would avoid risk to health and the environment at a cost to the industry. In addition, minority or low-income communities may not enjoy other benefits in proportion to the risks or impacts they bear.
Brownfields	Communities with low revenues may be unable to finance economic rehabilitation efforts that would improve the physical environment of a community.
Natural Resources	Reliance on natural resources for economic base (*e.g.*, tourism, crops; use of resources to create salable items, such as woven baskets among Native Americans; subsistence and commercial fisheries).
Other	Other indirect effects which a low-income or minority population, due to economic disadvantage, may not be able to avoid, that will have a synergistic effect with other risk factors (*e.g.*, vehicle pollution, lead-based paint poisoning, existence of abandoned toxic sites, dilapidated housing stock).

Exhibit 2. SUMMARY OF FACTORS TO CONSIDER IN ENVIRONMENTAL JUSTICE ANALYSIS

	FACTORS RELATED TO CULTURAL AND ETHNIC DIFFERENCES AND COMMUNICATIONS CONCERNS
	When determining whether communities have been afforded opportunity for meaningful involvement, broad factors for consideration include the following. Other considerations for public participation are discussed in Chapter 4 of the "*Guidance on Environmental Justice in EPA's NEPA Compliance Analyses.*"
Public Access	Whether community members have access to the decision making process (*i.e.*, whether the community is fairly represented on commissions, boards, etc., and whether the community is fairly made aware of their role in the decision-making process).
Cultural Expectations	Cultural expectations and understanding of the decision-making process.
Meaningful Information	Access to meaningful and understandable information, such as clear presentation of what a facility produces, what pollutants it releases, how these are managed, and the potential risk to the population.
Job Security	Potential for fear within the community that participating in the process may jeopardize job security.
Literacy Rate	If a low literacy rate exists, consideration should be given to the clarity and accuracy of presentations to the community and whether non-written materials, such as videos, have been considered for use in presentations.
Translations	Consideration of non-English translations, both written and oral during community presentations or public meetings.
Community Representation	Consideration should be given to whether representatives were selected by community decree or by outside sources without proper consultation with the community.
Community Identification	Whether identification of minority and/or low-income communities took into account all potentially-impacted communities. If communities were geographically defined rather than culturally defined, certain communities that are impacted, given other cultural factors, may be unfairly excluded.
Indigenous Populations	In addition, when projects or activities may affect tribal lands or resources or Native American communities, the NEPA analytical team should include one or more analysts familiar with Native American issues and culture, and the Agency should formally request the affected Indian Tribe(s) to seek participation as a cooperating agency. Specific factors to consider in such situations include, but are not limited to: • The trust responsibility to and treaties, statutes and executive orders with federally-recognized Indian Tribes. • Effect of insufficient financial and technical resources for the development and implementation of tribal environmental programs. • Impacts to treaty-protected resources, cultural use of natural resources, and/or sacred sites. • Government-to-government relationship with affected Indian Tribes as well as meaningful participation of the affected tribal community. • A dispute resolution process may be appropriate to ensure that resources are not diminished. • Health and socioeconomic effects due to cultural, subsistence, and commercial use of natural resources. • Potential for risk assessment to underestimate relationship between environmental degradation and human health concerns, especially in low population density areas. • Fundamental differences in "world view" ; where the values placed on resources vary significantly between cultures (i.e., some Native American cultures dispute the ability to "own" land and other resources.

3.0 INCORPORATING ENVIRONMENTAL JUSTICE INTO THE NEPA PROCESS

3.1 OVERVIEW OF THE NEPA PROCESS

A general framework for implementing NEPA requirements is presented in regulations (40 CFR Parts 1500 through 1508) promulgated by the Council on Environmental Quality (CEQ). Federal agencies, in turn, have developed their own rules for NEPA compliance that are consistent with the CEQ regulations while addressing the specific missions and program activities of each agency. EPA's regulations are found at 40 CFR Part 6. Over the past 25 years, the NEPA framework for environmental review of proposed federal actions has been substantially refined, based on further congressional directives, action by CEQ, and an extensive body of case law.

As stated in Section 1.0, an EIS is required for major federal actions significantly affecting the quality of the human environment. The basic analytical planning process for EISs required under NEPA and its implementing regulations for assessing the environmental impacts that may result from a government action includes:

1. **Definition:** Define the purpose and need for the action.

2. **Screening:** Preliminary delineation of potential impacts.

3. **Scoping:** Outline proposed action; define objectives; define scope; identify decisions that need to be made; focus resources; initiate public participation.

4. **Affected Resources:** Define the resources that may be affected if the action meets the proposed objectives.

5. **Alternatives:** Identify and define practical alternatives for meeting objectives.

6. **Mitigation**: Identify possible mitigation measures to minimize or avoid potential impacts.

7. **Consequences:** Predict the environmental impacts and other consequences of the proposed action and alternatives.

8. **Decisions:** Make decisions regarding a course of action, including mitigation measures developed to address environmental effects threatened by proposed actions.

9. **Monitoring:** Observing, recording, and documenting mitigation measures to evaluate their effectiveness.

CEQ regulations (40 CFR Part 1502) dictate the process that federal agencies must follow for all EISs, except where compliance with the regulations would be inconsistent with statutory requirements or where agency procedures allow for exceptions for national security reasons. Public participation and involvement is required throughout the NEPA process, beginning with scoping.

Proposed actions predicted to present less significant impacts often are analyzed in environmental assessments (EAs). As mentioned in Section 1.0, EAs are important analytical tools, originally intended to aid in the determination of significance of the effects of a proposed action. Compared to EISs, there are

3.2 Incorporating Environmental Justice Concerns into this Process

One of the most important means by which EPA can ensure that disproportionately high and adverse effects on minority and/or low-income communities are identified and analyzed, is to "institutionalize" the process of identification and analysis. The next sections of this Chapter describe the screening-level analysis that begins the process, and how environmental justice considerations can be integrated into later steps and activities required under CEQ and EPA regulations.

As noted in Chapter 1, one effect of incorporating environmental justice considerations into NEPA analyses will be to more sharply focus these analyses. To do this, it is necessary to assess the distribution of environmental impacts demographically and/or geographically, as well as to assess the overall impacts to the affected communities. As described in Chapter 5, the analytical tools commonly used for analyzing potential impacts may have to be modified to allow this more refined focus. Overall, the evaluation of environmental justice concerns raises a number of issues related to "significance" and to other NEPA procedures. The discussion below describes several issues that are relevant to the determination of significance and the consequent level of analysis; also included are discussions of how consideration of such issues should affect the determination and subsequent analyses. The analytical team should keep in mind that the presence of disproportionately high and adverse effects may or may not necessarily change the final decision, but will change the focus of the analysis and may result in additional mitigation measures.

3.2.1 Environmental Justice Screening Analysis

In preparing for any proposed action, one of the first actions is a preliminary delineation of potential impacts and of the potentially affected area. A screening for environmental justice concerns should be incorporated into this initial NEPA screening analysis. This section describes a two-step screening process, the results of which then guide subsequent actions related to environmental justice.

The first step in identifying potential environmental justice concerns should be a screening-level analysis to determine the existence of a low-income and/or minority population. Depending on the outcome, it may then be necessary to enhance public participation to gain a fuller understanding of the potential environmental justice issues (see Chapter 4), initiate development of alternatives and mitigation options, and/or initiate analyses to identify and assess disproportionately high and adverse human health or environmental effects (see Chapter 5).. In addition, if the proposed project may affect tribal lands or resources, then EPA, in keeping with federal and EPA policies of government-to-government relations, will formally request that affected Indian Tribe(s) seek to participate as a cooperating agency.

The screening analysis should occur as soon as the proposed action is well understood, around the time planning for scoping begins for EISs and planning begins for EAs. Although neither the impacts nor the full area to be affected may be fully understood at this point, it is usually possible to make fair approximations. In the screening analysis, two questions should be addressed, as described below.

counties in the Mississippi Delta region represent areas where African Americans comprise a majority of the total population.

Question 2

Are the environmental impacts likely to fall disproportionately on minority and/or low-income members of the community and/or tribal resources?

A positive response should trigger both an enhanced outreach effort to assure that low-income and minority populations are engaged in public participation and an analysis designed to identify impacts on both the larger population and on minority and/or low-income members of the population. A positive response could result from any of several factors, including the following:

- Within a potentially affected area, minority and/or low-income populations could be unevenly distributed, thus subject to different levels or intensity of impacts than the larger population. This pattern should cause concern for cumulative impacts. An example would be subsistence dependence on an affected resource by members of a community.

- The impacts may affect a cultural, historical, or protected (*e.g.*, treaty) resource of value to an Indian Tribe or a minority population, even when the population is not concentrated in the vicinity.

If the answer to both screening questions is "no," then the environmental justice screening analysis should be documented in scoping notices and in EISs/EAs and RODs/FONSIs. In addition, certain unique cultural, geographic, or economic factors may exist within an area that could warrant additional investigation. Also, later information and analyses may show that the screening analysis was mistaken. Indeed, analysts should re-examine the screening questions (and the key factors identified in Chapter 2) at key steps in the NEPA process (*e.g.*, following scoping, in drafting the EIS/EA, in soliciting comments on draft EISs, in responding to comments, and in preparing RODs and FONSIs).

3.2.2 Environmental Justice and the Determination of Significance

CEQ regulations (40 CFR 1508.27) detail factors that should be considered in making a determination of whether a proposed action is significant, thereby requiring a "detailed statement" (*i.e.*, an EIS). Economic or social effects alone do not trigger an EIS [40 CFR 1508.14].

According to CEQ's *Guidance for Considering Environmental Justice under the National Environmental Policy Act*, the "...Executive Order does not change the prevailing legal thresholds and statutory interpretations under NEPA and existing case law. For example, for an EIS to be required, there must be a sufficient impact on the environment to be "significant' within the meaning of NEPA. Agency consideration of impacts on low-income populations, minority populations or Indian tribes may lead to the identification of disproportionately high and adverse human health or environmental effects that are significant and that otherwise would be overlooked." CEQ requires that significance be evaluated in terms of "intensity" or "severity of impact." Here too, the narrowed focus could affect the determination. Several factors that affect the evaluation of intensity are relevant to situations involving environmental justice issues. These include the degree of scientific controversy, uncertainty (since distributional analysis is relatively new in the NEPA context and this introduces an element of uncertainty in impact assessment), and cumulative significance of related actions.

a minority community or low-income community and the effects are not likely to fall disproportionately on a minority and/or low-income community, and/or on tribal resources), then the scoping notice should state this finding and request additional information on whether there may be disproportionately high and adverse effects that were overlooked during the screening analysis.

If the environmental justice screening analysis concludes that there is a potential for disproportionately high and adverse effects, then the EPA NEPA analyst should ensure that the EIS scoping process raises environmental justice concerns and that sufficient data and information are generated to evaluate these potential effects. Prior to the full-scale scoping process, public outreach strategies should be developed and implemented. The public participation process should be used to define and evaluate environmental justice concerns by:

- Consulting with community leaders and members of the surrounding communities to seek their assistance in identifying all minority and/or low-income communities that may be affected by the proposed action.
- Consulting with officials in tribal, state and/or local government agencies over the environmental and human health concerns within the region and who may be familiar with the demographics of the affected populations. Where environments of Indian tribes may be affected, agencies must consider pertinent treaty, statutory or executive order rights and consult with tribal governments in a manner consistent with the government-to-government relationship.
- Soliciting information from the local community on potential environmental justice issues through public participation efforts (see Chapter 4 for a discussion of public participation).
- Soliciting public comment on environmental issues through formal public notice and comment procedures tailored to the community (see Chapter 4).
- If the proposed activity is deemed significant to warrant the development of an EIS, or if the community has raised significant concerns to be addressed in an EA, EPA should establish a community advisory board to work with EPA in the development of the respective NEPA documents.

The public participation efforts designed as part of the scoping effort for an EIS should clearly describe any environmental justice concerns identified by EPA, and should specifically ask the public to suggest alternatives and mitigation measures aimed at reducing or avoiding disproportionately high and adverse effects. The Agency also should design comparative socioeconomic, environmental and health analyses of all reasonable alternatives and mitigation measures that are tailored and/or scaled to evaluate the impacts to the affected minority and/or low-income community and/or tribal resources.

The EPA NEPA analyst should keep in mind that the goal of identifying and developing alternatives for mitigating disproportionately high and adverse effects is not to distribute the impacts proportionally or divert them to a non-minority or higher-income community. Instead, alternatives should be developed that mitigate or avoid effects to both the population at large and any disproportionately high and adverse effects on minority or low-income communities. In other words, the goal of developing reasonable alternatives is not to move the impacts around, but to identify viable alternative actions that meet program goals and avoid or reduce the environmental, socioeconomic, human health and/or ecological effects associated with the preferred action. Generally, the types of alternatives that may potentially lead to the avoidance or reduction of effects include: a) the identification of alternate locations or sites where impacts to susceptible populations or environments will be avoided; b) altering the timing of planned activities or periodic emissions to account for seasonal dependencies on natural resources; c) the adoption of pollution prevention practices and policies to reduce or mitigate emissions and/or impacts; d) reducing the size or intensity of an action; and e) taking no action.

3.2.6 Prediction of Environmental Consequences

CEQ regulations require government agencies to identify, predict and describe reasonably foreseeable beneficial as well as adverse changes to existing conditions that may result from implementing either the proposed action or alternative actions. Impacts across alternatives must be compared. The prediction and description of potential disproportionately high and adverse effects must begin during the screening and scoping stages of the process, as noted above. Throughout the NEPA process, environmental justice concerns should be identified, disclosed, and discussed with affected communities.

In preparing an EIS or EA, ecological and human health risk assessments are conducted to identify and evaluate potential environmental and human health impacts that may be imposed. In addition, interrelated socioeconomic impacts that would result from a proposed action and alternatives are analyzed. Chapter 5 provides an overview of the types of analyses and analytical tools that may be used to analyze these issues and approaches that may be appropriate to assess disproportionately high and adverse effects. Again, throughout the development and public disclosure of EPA NEPA analyses and findings, full discussions of the analytical process undertaken to identify environmental justice concerns and all findings and conclusions should be disclosed to and discussed with all affected and interested parties.

In evaluating the environmental impacts of the proposed action and alternative actions in an EIS, CEQ regulations (40 CFR 1508.25) require EPA to consider: three types of actions (connected actions, cumulative actions, and similar actions); three types of alternatives (no action, other reasonable course(s) of actions, and mitigation measures not in the proposed action); and three types of impacts (direct, indirect, and cumulative). Environmental justice concerns should be identified and analyzed within the context of all actions, alternatives and impacts. Exhibit 4 provides examples of how environmental justice issues could arise and/or be considered for each of these variables.

3.2.8 Decisions

The two NEPA decision documents identified in CEQ regulations are: 1) a ROD following an EIS and, 2) a FONSI following an EA. All EPA NEPA decision documents should include a concise summary of all steps undertaken to identify environmental justice concerns and the results of those steps. In cases where environmental justice concerns are identified, the decision documents should fully discuss these concerns, explain all alternatives and mitigation options that were analyzed, and explain how environmental justice concerns factored into the decision. In cases where effects to tribal lands or resources have been identified and the Indian Tribe and EPA disagree as to the preferred alternative or mitigation measures, the Indian Tribe may request that the EPA initiate a dispute resolution process to resolve this conflict. In addition, public participation efforts related to environmental justice concerns should be documented in the decision document. Finally, mitigation measures that are evaluated, disclosed to the public, and chosen in conjunction with the alternative to be implemented should be identified and discussed. If no concerns are identified, this finding should be stated along with the basis of EPA's conclusion.

4.0 PUBLIC PARTICIPATION

Adequate public participation is crucial to incorporating environmental justice considerations into EPA's NEPA actions, both to enhance the quality of the analyses and to ensure that potentially affected parties are not overlooked and excluded from the process. Public participation under NEPA involves two-way communications, with EPA receiving information, comments, and advice, as well as disseminating information on possible approaches, analyses, and decisions. This is particularly important when there are potential environmental justice issues involved. To sufficiently and adequately address potential environmental justice concerns and communicate with potentially affected communities, the EPA NEPA analyst should include one or more persons who are familiar with environmental justice issues and appropriate communications strategies. It is important that EPA take steps to encourage and facilitate more active participation by low-income communities and minority communities in its NEPA process. This goal can be accomplished through careful identification of target audiences and aggressive community outreach beyond the traditional forms.

There are established procedures for public participation in NEPA actions and decision-making processes (as in other federal actions). However, these procedures have not always been successful in informing or gaining participation by minority communities and low-income communities. Although they may be most affected, they may be the least informed, simply because of the means of communications used: this can be for any number of obvious reasons, such as language, culture, educational level or geographic location. In most cases, relatively simple approaches—well within the purview of "standard" public participation techniques—can overcome most barriers to informing and seeking involvement of interested or affected communities. This in turn can ensure that federal decisions are consistent with Executive Order 12898 and enhance the actual and perceived fairness of federal actions.

The first subsection below briefly describes public participation that is required during the NEPA process by CEQ and EPA regulations. The next subsection then identifies a number of the special concerns and unique issues that may arise in addressing environmental justice issues, and identifies several mechanisms that may be used in EPA's NEPA process to address those special concerns and issues.

4.1 PUBLIC PARTICIPATION UNDER NEPA

Public participation is one of the hallmarks of NEPA, and is reflected in CEQ's and EPA's NEPA regulations. According to 40 CFR 6.400(a), "EPA shall make diligent efforts to involve the public in the

4.2 Mechanisms to Enhance Participation

The public participation provision in Executive Order 12898 and its accompanying memorandum are designed to ensure that there is adequate and effective communication between federal decision makers and affected low-income communities and minority communities. This is consistent with the NEPA mandate to involve the public. The involvement of low-income communities and/or minority communities, however, presents some challenges to what has come to be the "normal" pattern of formal public participation under NEPA. In order to establish trust with all types of stakeholders, interaction with the affected community should:

- Encourage active community participation.
- Recognize community knowledge.
- Utilize cross-cultural formats and exchanges.

In all cases where EPA's initial screening indicates that there is a potential for disproportionately high and adverse effects on low-income and/or minority communities, the Agency should make a concerted effort to identify stakeholders in the affected community and include the following groups and organizations in their outreach efforts:

- Environmental organizations and agencies
- Minority businesses, associations and trade organizations
- Civic associations and public interest groups
- Grassroots/community-based social service organizations
- Federal elected officials and agencies
- Homeowners' or tenants' associations, neighborhood watch groups and resident organizations
- Labor unions and organizations
- State and local elected officials and agencies
- News media, the Internet and other electronic media
- Tribal governments and Tribal organizations
- Religious groups and organizations
- Libraries, vocational and other schools, colleges and universities
- Medical community
- Legal aid providers
- Rural cooperatives

Exhibit 4. Communications Issues of Particular Concern in Low-Income and/or Minority Communities

Challenge	Possible Approaches to Overcoming
Language or Communication barriers	• Provide assistance to hearing or sight impaired individuals • Provide simultaneous translation of meetings • Use local translators where possible • Translate key documents in entirety (notices, summaries, etc.) • Establish "comment line" (*e.g.*, 800 number) for callers to leave recorded comments • Advertise meetings/process in alternative-language medium • Design communication strategy to reach all segments of population • Use facilitated meeting rather than conventional stand-up comments to encourage comments
Distance to meeting or inconvenient access (e.g., rural or cross-town)	• Arrange for "comment line" (*e.g.*, 800 number) to provide remote access to meeting or to allow callers to leave recorded comments • Arrange for telephone tie-in from several locations (*e.g.*, from several schools, religious centers) • Hold series of shorter meetings (down to 1-2 hours each) in multiple locations • Arrange for alternative transportation (possibly through proponent) • Ensure location is accessible to public transportation and identify itinerary in notices • Use local cable-channel broadcast with telephone call-in • Have proponent provide transportation vouchers • Seek advice of local groups/individuals • Arrange for satellite link-up (perhaps funded by proponent)
Unfamiliar surroundings (government buildings, luxury hotel, etc.)	• Use schools or other local facilities including religious centers, churches, temples, mosques • Have several smaller decentralized meetings, including open-air meetings (possibly with tent backup) in season • Seek advice from local groups/individuals • Use local facilitator • Establish "comment line" (*e.g.*, 800 number) for callers to leave recorded comments or to participate from remote locations
Outside normal EPA communications loops (i.e., *Federal Register*, newspapers)	• Use pro-active approach to identify stakeholder (both groups and affected individuals). Consult with local advocates/public interest groups to identify outreach mechanisms and refer to the *People of Color Environmental Groups Directory*. • Disseminate information through alternative media (neighborhood organization newsletters, religious centers, fliers, local cable access channel, local radio broadcasts, etc.). • Co-sponsor public meetings with local community groups to nurture trust and credibility. • Make announcements to those on the mailing list; make follow-up phone calls to encourage attendance. • Direct consultation with tribal governments and public meetings at tribal facilities or on/near tribal lands.
Forms of Meetings	• Use town hall type meetings. • Avoid "panel of experts" • Use small focus-group seminars or workshops. • Use community "experts" and comments as part of communication strategy • Seek advice of local groups. • Use a trained facilitator who is sensitive to environmental justice issues.
Schedule conflicts (i.e., conflict with working hours, working days)	• Conduct personal interviews using audio or video recording devices • Hold after-hours and/or weekend meetings or seminars • Hold meetings on successive days • Hold multiple shorter meetings at diverse times/days • Establish "comment line" (*e.g.*, 800 number) for callers to leave recorded comments • Arrange for child-care (possibly funded by proponent)
Technically complex issues	• Provide sufficient background explanations beyond the usual means • Use plain language in meetings and printed material • Seek advice of local groups/individuals • Provide hands-on demonstrations/participation (*e.g.*, tours of similar facilities/locations) • Use visual presentations (*e.g.*, pictures, videos) • Provide two-way communication - Q & A • Use background summary reports, fact sheets, and abstracts • Provide technical and/or financial assistance to community, local organization, and/or tribal government to review, evaluate, and comment on the NEPA documents and provide meaningful input throughout the NEPA process.
Trust	• Clearly present goals of NEPA, the proposed action, the public involvement process, and what is expected to be gained from the process • Do not oversell: present uncertainties and limitations • Goals should be written and in clear language • Present experiences and track record, successes and failures

and capacity to provide input and full participation, as well as an equal voice in the decision-making process. Dr. Bullard further points out that an effective communications strategy accounts for different groups weighing and acting upon government actions and policies differently. An effective communications strategy recognizes, respects, and values cultural diversity of communities and stakeholders that represent a specific race, ethnic group, gender, age, geographic region, and a host of other characteristics.

As mentioned above, a recommended approach to ensure adequate public participation by minority and/or low-income communities when the screening analysis indicates there may be disproportionately high and adverse effects is to include a person familiar with environmental justice public participation issues on the "project review team." CEQ "Guidance Regarding NEPA Regulations" recommends that an interagency project review team be used when appropriate, with the team functioning as a source of information, a coordination mechanism, and an expert review team. When environmental justice issues must be faced, the review team should consult with the local community (including but not limited to organized groups concerned with environmental justice) during and following scoping, and should provide specialized expertise to EIS preparers.

The following are additional mechanisms for enhancing participation in the NEPA process: 1) allow public review of RODs; 2) government-to-government consultation with tribal governments, including formal requests for Indian Tribes to seek participation as cooperating agencies; 3) Community Advisory Boards for the development of NEPA documents; 4) community consultants; and 5) technical assistance to affected communities to enhance understanding of proposed action, technical documents, and full range of potential alternatives and mitigation measures.

In general, the effort expended in actively soliciting community involvement after the initial screening process should reflect the potential significance of the effects. As noted above, however, there should be some effort to communicate with stakeholders in all cases, including EAs, where the screening analysis identifies potential disproportionately high and adverse effects. Although the health or environmental impacts analyzed in EAs may not be "significant," from the NEPA standpoint, they may be perceived as significant by affected parties. Although this concern would not trigger an EIS, it should trigger more EIS-like scoping and public participation prior to and following EA preparation. To the extent practicable and consistent with regulations, an EIS-like public participation process should be undertaken for EAs when social or economic impacts will be or are perceived to be substantial, even when the impacts are not expected to be significant.

5.0 METHODS AND TOOLS FOR IDENTIFYING AND ASSESSING DISPROPORTIONATELY HIGH AND ADVERSE EFFECTS

A fundamental step for incorporating environmental justice concerns into EPA NEPA compliance activities is identifying minority and/or low-income communities that may bear disproportionately high and adverse effects as a result of a proposed action. Once these minority and/or low-income communities are identified and located, the potential for disproportionately high and adverse effects to these communities must be assessed. It is important to understand where such communities are located and how the lives and

following sections provide an overview of some of the available tools and the types of analyses that may be useful for identifying and assessing disproportionately high and adverse effects (by evaluating both total effects and effects on a smaller scale). It is not an exhaustive listing of available tools, since many tools for identifying and assessing environmental justice concerns are still being developed, and it is not meant to promote or endorse one type of tool or analysis over any other. The application of any tool is dependent upon the type of study, the particular attributes of the area under study, and the data available to undertake the study.

5.1 LOCATIONAL/DISTRIBUTIONAL TOOLS

Maps, aerial photographs, and geographical information systems (GIS) can be used to locate geographical areas where potential environmental justice issues may exist. Local maps and aerial photographs may provide a "snap shot," or general overview, of the locations of minority or low-income populations or communities and the proximity of the proposed project to these populations or communities. They also can identify key natural resources that may be affected. Although such tools are relatively simplistic, they may be useful for identifying distinct communities within a geographical area surrounding a candidate site, and for identifying clusters of facilities or sites that may contribute to cumulative impacts to a given region or community. By consulting maps or photographs that depict the locations of minority or low-income communities, as well as maps of the same geographical area that depict the locations of hazardous waste facilities, Superfund sites, Toxics Release Inventory facility sites, and/or wastewater discharges, analysts and EPA decision makers can gain a general understanding of the spatial relationships between the proposed project and the surrounding communities. These tools can assist the EPA NEPA analyst in identifying existing sources of environmental pollution and their proximity to minority and/or low-income communities.

By consulting maps or photographs that depict the locations of minority or low-income communities, as well as maps of the same geographical area that depict the locations of hazardous waste facilities, Superfund sites, Toxics Release Inventory facility sites, and/or wastewater discharges, analysts and EPA decision makers can gain a general understanding of the spatial relationships between the proposed project and the surrounding communities. Aerial photographs can be used to effectively depict the boundaries of an identified community and the spatial relationship that exists between the community and natural resources and known pollutant sources.

Geographic information systems provide a much more powerful tool for identifying and locating populations of concern. GIS technologies are useful for characterizing environmental justice issues by identifying the locations of minority communities that potentially may be affected by proposed actions and providing a visual understanding of how potential impacts may be distributed within a geographical area. GIS provides the technology for displaying and overlaying locational information and population and site characterization information on one or more maps. GIS allows for the visual display of vast amounts of spatially oriented information. In addition, GIS systems can be used to display alternative "what if" scenarios and provide for relatively quick and easy general comparisons of the potential impacts presented by alternative locations.

To enhance the applicability of GIS technologies to NEPA assessments, including the assessment of potential cumulative impacts from existing and proposed projects, the geographical and demographic information provided in Census databases can be integrated with other available EPA information (*e.g.*, facilities located within particular zip codes or counties that reported releases or emissions of a particular chemical in TRI reports, locations of NPL sites, etc.) and integrated with other NEPA factors using digitized data sets on soils, power lines, roads, streams, sources of electricity, locations of threatened and endangered species, and existing archaeological sites. These additional data sets are readily available from the U.S. Forest Service, the U.S. Geological Survey, the Department of Commerce, and state and local government agencies. Additional maps depicting community-specific issues (*e.g.*, locations of subsistence farmers and locations of water bodies supporting subsistence fishing activities) also can be compiled, digitized and incorporated into a GIS system to further depict and analyze more specific environmental justice issues and concerns.

Other GIS, or computer mapping, systems that may enhance NEPA analyses of environmental justice concerns include CAMEO (Computer-Aided Management of Emergency Operations), ALOHA (Aerial Locations of Hazardous Atmospheres) and AILESP (American Indian Lands Environmental Support Project). CAMEO includes chemical-specific information, facility-specific information from EPA's Chemical Inventory database and TRI database, and transportation information. CAMEO integrates MARPLOT, a mapping application tool that generates maps from U.S. Bureau of Census TIGER files. ALOHA is a modeling tool for estimating the movement and dispersion of gases and estimating pollutant concentrations downwind from the source of a potential spill or emission. ALOHA files can be saved and used in a format compatible with CAMEO. AILESP includes permitted facilities on or near Indian lands from various EPA databases (e.g., AIRS, BRS, NCDB, PCS, RCRIS, TRI, CERCLIS), pounds of chemicals released, 1994 spill and one time release data, pesticide use by county, toxic weighting factors for TRI chemicals, two year inspection and compliance information, 1990 population and census statistics, and stream reaches with fish advisories, contaminated sediments and contaminated fish tissue.

5.2 Ecological and Human Health Risk Assessments

Executive Order 12898 provides for agencies to determine if a proposed action will result in disproportionately high and adverse effects to minority or low-income populations. Due to the fact that the characteristics of these populations may differ significantly from the characteristics of the larger affected population, analyses should address both the minority or low-income population and the comparison populations. See Chapter 2 for a discussion of the environmental and socioeconomic factors that should be considered in identifying and assessing disproportionately high and adverse effects.

EPA has a formal risk analysis process which consists of two related, but separate, processes: risk assessment and risk management. Risk assessment characterizes the likelihood for a chemical or substance to cause adverse health effects to humans and can provide a means for assessing the possible impacts on a population, if exposure occurs. Risk assessment provides an estimate of the probability that human exposure to a chemical agent will result in an adverse health effect to the exposed individual, or an estimate of the incidence of the effect upon an exposed population. Risk management is the process whereby it is decided what actions are appropriate, given an estimate of potential risks and due consideration to other

affected environments (*e.g.*, watersheds, wetlands, wildlife habitats) that may be impacted by the proposed project (including alternatives). After a general cataloging and description of the surrounding environmental and ecological resources is compiled, the potential changes and impacts of the proposed action and alternative actions are assessed. Often, these analyses do not fully substantiate the beneficial or adverse effects on the surrounding geographical area or communities within the area. Instead, impacts may be described generally, with an assumption that they are distributed equally across all communities or residents within the affected region or area. As a consequence, the analysis may overlook or ignore environmental justice concerns. If adverse impacts are not quantified, then special consideration should be given to whether potential impacts could be borne by minority communities or low-income communities residing within the larger area and, if necessary, separate analyses should be designed and conducted to assess this. As discussed above, GIS systems can sometimes be used to identify such populations and to characterize the environments where the populations reside. In addition, county and state planning agencies and housing authorities may be useful sources of information for characterizing the unique aspects and vulnerabilities of these populations.

If environmental, ecological, or human health impacts to the affected geographical area are quantified, the distribution of such impacts should be assessed. The study should attempt to estimate the proportion of impacts borne by low-income and/or minority populations within the area of a project's impact compared to the general population in and around the project, or the project's region of influence. While traditional risk modeling may not always be used in the NEPA process, impact assessments and risk management tools should be tailored to reflect the characteristics of these communities and study assumptions should reflect the characteristics of the individuals residing in low-income communities and minority-populated communities (*i.e.*, model assumptions should reflect the general health of these individuals and their general living conditions and unique locations relative to pollutant sources). When tailoring risk management tools to consider the distribution of impacts to low-income and/or minority communities, differential patterns of subsistence consumption of natural resources should be considered, including differences in rates of consumption for fish, vegetation, water, and wildlife among ethnic groups and among cultures. Further, it should be recognized that land and water resources not predominantly used by the general population may be important sources of consumption , economy, cultural use, and/or recreation for minority and/or low-income communities. Degradation of these resources may result in direct and disproportionately high and adverse effects to minority and/or low-income communities.

5.3 SOCIOECONOMIC ANALYSES

The analysis and understanding of potential socioeconomic impacts is also important. CEQ regulations note that economic or social effects alone do <u>not</u> trigger an EIS (40 CFR §1508.14). However, if environmental justice concerns are identified during the screening analysis or during the development of an EA, the potential interrelated socioeconomic impacts to both the total affected population (or a "control" population) and to the low-income and/or minority communities of concern should be evaluated, to the extent practicable. Cultural or Social Impact Assessments are additional tools that can be used for analyzing specific socioeconomic impacts to a community that shares a common cultural or spiritual environment.

hearings for other government projects within the same region. In some cases, analysts may need to conduct interviews of local community leaders and members of the targeted population.

One option for modifying or tailoring socioeconomic analyses to identify and evaluate environmental justice concerns is to develop index or ranking systems for identifying and scoring potential disproportionately high and adverse effects to minority and/or low-income communities. Such an index or ranking system could be applied to specifically defined or targeted areas and used as a screening tool to identify environmental justice concerns in communities surrounding one or more candidate locations. Candidate locations that result in high index scores or rankings can either be dropped from consideration, targeted for additional and more thorough socioeconomic and risk analyses to investigate further potential disproportionately high and adverse effects, or development of additional alternative actions or projects designed to mitigate identified impacts.

An environmental justice screening index may be as simple as defining several levels or categories of potential impacts (*e.g.*, changes in employment levels, changes in income levels, and changes in overall health levels) or defining and scoring several socioeconomic indicators (*e.g.*, dependence on subsistence farming or fishing, percent of population below poverty level, average property value) and weighing each category of impact as to its importance to contributing to environmental justice issues. Decision criteria (*e.g.*, undertake further detailed social impact analyses, drop candidate location from consideration) could then be set for different ranges of index scores or rankings. The index also may combine preliminary information on potential economic impacts with information on other potential impacts (*e.g.*, environmental degradation, air emissions) to assign decision criteria for additional targeted analyses or studies.

EPA Region 6[11] developed a relatively sophisticated ranking scheme to determine whether an environmental justice indicator exists. The formula provides a means for determining whether an environmental justice situation exists and includes factors such as population exposed, degree of impact and degree of vulnerability.

Region 6 evaluates sites using an environmental justice formula and ranks facilities or actions on a scale of 0 to 100. Regional officials point out that although higher scores can indicate greater potential environmental justice concerns, the population density, percent minority population, and percent of economically depressed household data are the more important analytical factors. When evaluated independently, they often provide greater insight into potential environmental justice concerns and can be used alone to rank sites. Also, the user should realize that even a location with an index ranking of zero can have significant environmental justice concerns. For example, an unpopulated area will rank a zero, but if owned and/or used by minority and/or low-income groups, the site may have significant environmental justice importance. Recent examples of EPA's use of the EJ index include the draft EIS for Eagle Pass Mine, in Maverick County, Texas, and the Supplemental Draft EIS for Expansion of the Oak Hill Surface Lignite Mine into the DIII Area, Rusk County, Texas. Utilizing the EJ index on a scale of 1

11 U.S. EPA Region 6, Office of Planning and Analysis. "Computer Assisted Environmental Justice Index Methodology." July, 1994.

APPENDIX A
Council on Environmental Quality
Guidance for Addressing
Environmental Justice Under the National Environmental Policy Act

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U.S. General Accounting Office. June 1, 1983. Siting of Hazardous Waste Landfills and Their Correlation with Racial and Economic Status of Surrounding Communities.

Environmental Protection Agency (EPA), April 16, 2002

1. This comment is noted.

2-3. All comments received on the QSA PEIR have been responded to in the Final PEIR, as required by CEQA. To the extent that the comments included in the attached letter addressed to U.S. Bureau of Reclamation (Reclamation) regarding the Implementation Agreement Draft Environmental Impact Statement (IA EIS) are similar to comments made on the QSA Draft PEIR, responses to those comments are included below. All comments on the IA EIS are being addressed by Reclamation, the lead agency with control over decisions related to the IA EIS. Responses to comments will be provided in the Final EIS. All comments on the Draft EIR/EIS for the IID Water Conservation and Transfer Project are being addressed by the federal and state lead agencies for that project, IID and Reclamation, and responses to comments will be included in the Final EIR/EIS.

4. The long-term environmental impacts of the Proposed Project are addressed in Chapter 3. The potential growth-inducing impacts of the Proposed Project are addressed in Chapter 6. As noted in that chapter and addressed in the response to Department of Fish and Game comment No. 42, the Project would not *increase* the reliability of Southern California's water supply; rather, it would *maintain* its reliability. The details regarding the methods of allocation and distribution of Colorado River water are contained in Chapter 2 of the PEIR.

The QSA would not by itself reduce California's Colorado River use to 4.4 million acre-feet per year (MAFY), nor would it alone be able to maintain MWD's historic use of 1.25 MAFY. As noted in Chapter 1 of the PEIR:

> The QSA would implement *major components* of California's draft Colorado River Water Use Plan (California Plan) and provide *part* of the mechanism for California to reduce its diversions of Colorado River water to the state's normal year apportionment of 4.4 million acre-feet (MAF) (italics added).

As noted in section 2.5.3:

> Implementation of the Proposed Project would affect the amount of Priority 3a, 4, and 6a water carried in the CRA. During the quantification period, and particularly after the 15-year Interim Surplus period, the total amount of water carried by the CRA in a normal year *may be less* than current operations as California would be limited to 4.4 MAFY, and previously used surplus and unused apportionment water may not be available. *MWD has a number of projects in the planning or pilot project stage that would assist in maintaining delivery of Colorado River water to the MWD service area* (refer to section 1.5, Related Plans, Programs and Actions) (italics added).

The long-term sustainable balance between water supply and water demand is more appropriately addressed in the Urban Water Management Plans prepared by each of the four co-lead agencies rather than in the QSA PEIR. These plans include such measures as water conservation, including the use of Best Management Practices (e.g., financial

incentives for the installation of low-flow toilets and high-efficiency appliances; distribution of low-flow showerheads; residential surveys, leak detection programs, landscape programs, public information programs, school education programs, water waste prohibitions, etc.) and Agricultural Efficient Water Management Practices. Water recycling (the treatment and disinfection of municipal wastewater to provide a water supply suitable for non-potable reuse) is also a key component of these Urban Water Management Plans, which include provisions for low interest loans, financial assistance, and public education.

5. The QSA PEIR (section 3.1) does evaluate the impacts of the Proposed Project on physical resources managed or affected by Indian tribes on the lower Colorado River, within the Salton Sea watershed, and those affected by lower Colorado River changes. As noted in section 2.4.1, use of the water by the Indian bands affected by the San Luis Rey Indian Water Rights Settlement is not included in this analysis. Copies of the Notice of Availability and Draft PEIR were provided to those tribes most likely to be concerned with the QSA's potential impacts: the Agua Caliente Band of Cahuilla Indians, Augustine Band of Mission Indians, Barona Band of Mission Indians, Cabazon Band of Mission Indians, Cahuilla Band of Mission Indians, Campo Band of Mission Indians, Chemehuevi Indian Tribe, Cocopah Indian Tribe, Colorado River Indian Tribes, Cuyapaipe Band of Mission Indians, Fort Mojave Indian Tribe, Inaja Cosmit Reservation, Jamul Band of Mission Indians, La Jolla Band of Luiseno Indians, La Posta Band of Mission Indians, Los Coyotes Reservation, Mananita Band of Mission Indians, Mesa Grande Band of Mission Indians, Morongo Band of Mission Indians, Pala Band of Mission Indians, Pauma Band of Mission Indians, Pechanga Indian Tribe, Quechan Tribe, Ramona Band of Mission Indians, Rincon Band of Mission Indians, San Manuel Band of Mission Indians, San Pasqual Band of Diegueno Indians, Santa Ynez Band of Mission Indians, Santa Rosa Band of Mission Indians, Santa Ysabel Band of Mission Indians, Soboba Band of Mission Indians, Sycuan Band of Mission Indians, Torres Martinez Band of Desert Cahuilla Indians, Twenty-Nine Palms Band of Mission Indians, and Viejas Band of Mission Indians.

   Although CEQA does not require formal government-to-government tribal coordination or consultation, such consultation may be required under Executive Order 11-6-00. Reclamation, as the federal lead agency for federal actions needed to implement the QSA and the IID/SDCWA Water Transfer, has undertaken tribal coordination as part of the EISs prepared for these actions. Reclamation sent a memorandum to 55 Indian Tribal representatives on April 26, 2001, inviting them to enter into government-to-government coordination pursuant to CEQ regulations for implementing the procedural provisions of NEPA; the National Historic Preservation Act; and Executive Order 13175 of November 6, 2000, pertaining to consultation and coordination with Indian tribal governments. The Twenty-Nine Palms Band of Mission Indians was inadvertently not included in the distribution of the memorandums; a letter has been sent to the tribal chairperson to remedy this oversight.

   A Reclamation staffperson has also met with representatives of the Torres Martinez Band of Desert Cahuilla Indians to discuss potential impacts to the Salton Sea and the Tribe's reservation. A government-to-government consultation meeting was held on April 12, 2002 that was attended by representatives of the Torres Martinez Band of Desert Cahuilla Indians, Reclamation, U.S. Fish and Wildlife Service, Bureau of Indian

Affairs, and the EPA. In addition, Reclamation has met with Colorado River Indian Tribes (CRIT) staff and had numerous telephone conversations to discuss potential impacts to the CRIT from the proposed action, and is providing a grant to CRIT under which CRIT has hired an independent consultant to review the hydropower-related studies conducted for the IA EIS. At CRIT's request, a formal government-to-government consultation meeting will not occur until after this review has been completed. None of the other tribes has requested a formal government-to-government meeting with Reclamation.

6. This comment is noted.

7. This comment is noted. Responses to specific concerns identified by the EPA are included in responses to EPA comments 10-43, as well as 1-5.

8. This comment is noted. Responses to specific concerns identified by the EPA are included in responses to EPA comments 10-43, as well as 1-5.

9. This comment is noted.

10. Please see response no. 4. Also note that the PEIR evaluates the IID/SDCWA water transfer, as implemented by the QSA. Under the QSA, the IID/SDCWA transfer is limited to 200,000 AFY, even though the IID/SDCWA Agreement provides for a potential 300,000 AFY. The additional 100,000 AFY would be used by CVWD and/or MWD under the QSA.

11. With regard to monitoring, accounting, enforcement, and assurance as it relates to the water transfer, Reclamation, under the "Law of the River" and specifically the 1964 Supreme Court Decree in *Arizona v. California*, has the responsibility to prepare and maintain complete, detailed, and accurate records of diversions of water from the mainstream, return flow of such water to the stream that is available for consumptive use in the United States or in satisfaction of the Mexican treaty obligation, and consumptive use of such water. This use is provided separately for each diverter from the mainstream, each point of diversion and each of the states of Arizona, California, and Nevada. The results are provided in an Annual Decree Accounting Report prepared by Reclamation's Lower Colorado Region.

12. It is unclear what long-term policy implications are being addressed in this comment. As noted in EPA response no. 4, the long-term sustainable balance between water supply and water demand is more appropriately addressed in the Urban Water Management Plans prepared by each of the four co-lead agencies rather than in the QSA PEIR.

13. The proposed shortage sharing provisions are a part of the QSA. Long-term (75-year) impacts of the implementation of the QSA are addressed in the PEIR. This is the length of the agreement; thus, this is an appropriate timeframe for analysis. The QSA indicates that after 75 years, the agreements would be terminated (see Appendix A). Attempting to determine what water sources might be available to MWD and SDCWA and whether additional transfer agreements would be in place 75 years from now would be speculative and is not required by CEQA. The long-term sustainable balance between water supply and water demand is more appropriately addressed in the Urban Water

Management Plans prepared by each of the four co-lead agencies rather than in the QSA PEIR.

14. See response to California Department of Fish and Game (CDFG) comment 42 regarding the potential for the QSA to cause growth-inducing effects. Also, the PEIR does not state that transferred water will be used for existing development and not future growth; rather, the QSA would maintain the reliability of Colorado River water supplies as one component of meeting current *and projected* water demand in the MWD and SDCWA service areas (section 6.1.4.1). Water supply sources and quantities assumed for existing, planned, and projected growth are described fully in MWD's *Integrated Resources Management Plan* and *Regional Urban Water Management Plan*, and SDCWA's *Urban Water Management Plan*, which were used as background documents in preparing Chapter 6 of the PEIR (Growth-Inducing Impacts).

15. The EPA's view regarding growth principles and water use efficiency are noted. Water conservation measures in the MWD and SDCWA service areas are being implemented aggressively and are addressed in their respective Urban Water Management Plans and in MWD's Annual Progress Report to the California State Legislature, Achievements in Conservation, Recycling, and Groundwater Recharge (February 2002). Specific types of measures that are being implemented in these service areas are described in response no. 4 above.

16. State CEQA Guidelines, Section 15143, states that "the EIR shall focus on the significant effects on the environment." Section 3.1.2.3 of the PEIR addresses potential impacts to groundwater and salinity in Mexico, but concludes that impacts would not be significant. No other potentially significant impacts were identified.

    Reclamation performed detailed hydrologic modeling of potential impacts to Mexico from the proposed water transfers. The results of this analysis are included in the Implementation Agreement, Inadvertent Overrun and Payback Policy, and Related Federal Actions Draft EIS (USBR 2002), in section 3.12 and Appendix G. The analysis concludes that deliveries to Mexico are basically unaffected by the proposed water transfers, and that transfers would have an indiscernible effect on the magnitude and frequency of excess flows to Mexico. Thus, no significant impacts to Mexico's biological resources would occur.

    No additional baseline information regarding the lower Colorado River delta is required in the QSA PEIR given the lack of potential impacts.

17. Implementation of the Proposed Project would not interfere with implementation of Total Maximum Daily Load (TMDL) programs in the IID water service area. Correspondence from the Regional Water Quality Control Board (RWQCB) states that: "It is our understanding that the proposed selenium TMDL would focus on selenium throughout the upper and lower Colorado River Basin States (Colorado River Watershed), and would address selenium reduction at the sources, but could also include management practices to address concentrating of selenium in Imperial Valley."[1] This statement is consistent with the co-lead agencies' view that mitigation to

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[1] Correspondence from Teresa Newkirk Gonzales, dated April 18, 2002.

meet numerical criteria is not practical unless it is carried out within the context of a more extensive mitigation effort. In particular, if the aquatic life criterion were reduced to 2 μg/L, this would establish a concentration criterion that is below the selenium concentration of water received by IID from the Colorado River.

18. The PEIR recognizes that the impact on groundwater quality in certain parts of the Coachella Valley groundwater basin is anticipated to be significant because of the higher concentrations of Total Dissolved Solids (TDS) and other chemical constituents in Colorado River water than some local groundwater. Wells located up to 2 to 3 miles downgradient of the proposed CVWD recharge sites are most likely to experience elevated TDS as a result of the Proposed Project. Groundwater quality near the recharge basins would gradually change over time and may approach the quality of Colorado River water in the affected areas.

    Please refer to EPA response no. 17 regarding selenium TMDLs. As noted in that response, it is the co-lead agencies' view that it is only practical to carry out mitigation for selenium within the context of a more extensive mitigation effort.

    Since the TDS of the local groundwater in portions of the basin is higher than Colorado River water, the magnitude of the water quality change would vary with location. The anticipated TDS increase would not impair any beneficial uses of the water, as defined by established state and federal primary (or health-based) drinking water standards. The higher salinity could exceed recommended secondary water quality standards that deal with aesthetics, such as taste and hardness. Mitigation to reduce the higher TDS concentrations of Colorado River water to the equivalent of groundwater was evaluated and found to be financially and environmentally infeasible, as discussed below.

    CVWD evaluated the feasibility of reducing the higher TDS of Colorado River water to the equivalent quality of groundwater. Two alternatives were considered: (1) construction of an extension of the State Water Project (SWP) into the Coachella Valley and (2) construction of desalination facilities for Colorado River water. The capital cost of extending the SWP to the valley ranged from $205 million to $390 million depending on the size of the facility. Total costs (including capital and operations) would range from $322 to $406 per acre-foot, in addition to the cost of acquiring SWP water (about $200 per acre-foot). The capital cost of desalting Colorado River water ranged from $284 million to $1.19 billion depending on the size of the facilities and the method of brine disposal. The highest cost identified involved treating all Colorado River water entering the Coachella Valley. The cost of the desalted water ranged from $184 to $330 per acre-foot, in addition to the costs of acquiring the water supplies and delivering them to customers in the valley. On the basis of economics alone, these options were found to be economically infeasible (CVWD unpublished data).

    In addition to the economic considerations, each of these options has significant environmental impacts of its own. Environmental impacts include the disturbance of 300 to 400 acres of desert land for pipeline construction, loss of 500 to 3,500 acres of land for brine evaporation ponds, loss of habitat and biological resources, loss of cultural resources along facility alignments, air quality impacts from construction and generation of additional energy for the pump and treatment facilities, additional energy for pumping SWP water or running the desalters, and impacts related to salt disposal

(CVWD unpublished data). Considering both costs and environmental impacts, these mitigation measures are considered infeasible.

IID has been actively involved in development of the referenced TMDLs, and is working with the RWQCB on development and implementation of TMDLs that apply exclusively to rivers flowing through IID's water service area. IID is also participating with the RWQCB to formulate a nutrient TMDL for the Salton Sea and foresees a similar compliance program based on Best Management Practice implementation.

19. Skorupa (1998) recognized that the primary selenium bioaccumulation pathway in the Salton Sea is from the Salton Sea itself rather than the New and Alamo rivers and the drains. Most of the selenium within the Sea occurs within the sediments and not the water column. Furthermore, Setmire et al. (1996) also states that there is no current research that correlates specific selenium concentrations with wildlife impairment at the Salton Sea. Current studies at the Salton Sea have not linked specific selenium concentrations in the water with avian egg concentrations that relate directly to reproductive success. Therefore there is no evidence to conclude that any increase in selenium in the drains would result in significant adverse impacts to biological resources.

20. The PEIR, Tables 3.1-15, 3.1-17 and 3.1-21 in particular, contain specific information on changes in total dissolved solids, sediment (TSS), and selenium in the New River, Alamo River, Whitewater River/Coachella Valley Stormwater Channel (CVSC), and Salton Sea due to the Proposed Project. However, a summary table has been added to the PEIR to better describe overall trends in water quality in the service areas of IID and CVWD with implementation of the Proposed Project. Refer to response 23 immediately below for additional detail regarding potential perchlorate impacts.

21. The co-lead agencies already are working with other agencies to develop measures that protect critical fish and wildlife habitat. As noted in section 3.2.2.3 of the PEIR (also section 4.2.17), CVWD is participating in a multi-agency, multi-species habitat conservation plan with others in the Coachella Valley (the Coachella Valley Multiple Species Habitat Conservation Plan [CVMSHCP]). Potential impacts to sensitive species from CVWD's use of water related to the Proposed Project will be addressed in the CVMSHCP, which is currently under development. As discussed in sections 2.4 and 3.2.2.3 of the PEIR, IID has prepared a draft Habitat Conservation Plan in support of IID's application for incidental take permits in conformance with the federal and California Endangered Species Acts (ESAs) for impacts of the IID Water Conservation and Transfer Project within the IID service area, the All American Canal right-of-way, and the Salton Sea.

22. Mitigation Strategy 2 is designed to mitigate the impacts of reduced flow volume on Salton Sea elevation and the impacts of reduced flow volume on Salton Sea salinity. The salinity of drainage water is currently less than the concentration of salinity in the Sea itself. Therefore, maintaining drainage flows adds lower salinity water to the Sea.

    Conserved water can come from a variety of sources, including drainage water. Selenium in drainage water is significantly *higher* (by one or two orders of magnitude) than the concentration in the Sea. If conservation water were obtained through fallowing, the delivered water would still have a higher selenium concentration

(approximately 2.0 μg/L) than the Sea itself (0.74 μg/L). The delivery of conservation water to the Sea would simply add water with a higher concentration of selenium to the Sea. Therefore, the objective of maintaining the volume of water to the Sea through conservation could conflict with the objective of decreasing selenium. Also refer to EPA response no. 40 below.

23. The California Department of Health Services (DHS) set a provisional action level for perchlorate at 18 ppb until January 18, 2002, when it was lowered to 4 ppb. An action level is not an enforceable drinking water standard, but a health-based advisory level for chemicals that do not have formal maximum contaminant levels. DHS establishes an action level as a guidance tool when they do not have a regulation for a contaminant and want to provide some guidance for utilities. If an action level is exceeded, state law requires the public water system operator to inform its governing body and the regulatory agency. DHS recommends but does not require public notification as well.

    In March 2002, the State Office of Environmental Health Hazard Assessment proposed a public health goal (PHG) of 6 ppb for perchlorate. A PHG is the first step in developing a Maximum Contaminant Load (MCL) (DHS's goal is to have an MCL for perchlorate by 2004). A PHG is a concentration at which no adverse health effects would occur after a lifetime of consumption of water at this concentration. No federal drinking water standard has yet been set for perchlorate.

    Perchlorate enters the Colorado River water system along Las Vegas Wash, which drains into Lake Mead. Perchlorate concentrations are diluted in Lake Mead as Colorado River water flows downriver, because of other incoming flows. Water from MWD's Colorado River Aqueduct had perchlorate concentrations ranging from 4 to 8 ppb between 1997 and 2001. IID reports perchlorate concentrations in the All American Canal of 4.2 to 5.3 ppb during 2001-2002. The CVWD water samples found no perchlorate in water from the Coachella Canal (the detection limit is 4 ppb). In 2001, CVWD tested all its active wells in May and in October/November. Only one well near Avenue 54 and Jefferson had detectable perchlorate (5.0 and 5.9 ppb from two different laboratories).

    At the same time, the Nevada company responsible for the perchlorate entering Las Vegas Wash constructed and is operating a perchlorate treatment system. The treatment processes are anticipated to decrease perchlorate concentrations in Las Vegas Wash, and thus in the Colorado River water, significantly over the next approximately 6 years. The date cannot be predicted exactly as the concentration is also a function of the volume in Lake Mead and flow in the river, which is dependent on rainfall. Additionally, perchlorate is already in the Las Vegas Wash sediments and will be flushed out over time at a rate that also depends on rain events. By the time the Dike 4 area recharge basin goes on line, in roughly 2005, the perchlorate level in the Colorado River water from the Coachella Canal will be lower than at present. In addition, CVWD groundwater modeling estimates that the recharge at Dike 4 will take approximately 10 to 20 years to reach the Torres Martinez wells. (The wells of other Indian tribes in the Project area would not be affected. Those of the Augustine, Cabazon, and Twenty-Nine Palms tribes are located too far from the proposed recharge facilities. Those of the Morongo and Agua Caliente tribes are located up-gradient from any Colorado River water deliveries associated with the Proposed Project.)

A mitigation measure has been added to section 3.1.3 that would reduce any potential impacts to the Torres Martinez drinking water supply as a result of groundwater recharge to less than significant.

24. As noted, there currently is no water quality criterion for salinity in the Salton Sea. While the RWQCB has been directed by the EPA to develop a TMDL for salinity in the Salton Sea, there is currently no schedule to do so. RWQCB has yet to develop background levels, which is one of the first steps in the process, nor have the load enforcement mechanisms been determined. Thus, it is premature to attempt to integrate this TMDL action into the proposed QSA action and to speculate what impacts the Proposed Project would have on the development and implementation of the TMDL.

    Under the Proposed Project, it is anticipated that much of the water conservation would be achieved through reduction of tailwater. This would be expected to lead to a reduction in the mass of nutrients transported in the soluble phase by tailwater to IID drains. In addition, conservation of tailwater would reduce the mobilization of silt and lessen the mass of silt released to IID drains. Some nutrients, particularly phosphorus, tend to be adsorbed by fine soil particles. Therefore, a reduction in silt release would result in a reduction in release of these nutrients. Because the volume of tilewater produced under the Proposed Project is similar to that produced under the existing conditions, it is unlikely that the mass of nutrients, particularly ammonia, that may enter IID drains through tilewater would be greatly affected by implementation of the Proposed Project. Therefore, implementation of the Proposed Project would be likely to reduce mass loading of nutrients to the Salton Sea and support Best Management Practices introduced under a future Salton Sea nutrient TMDL.

    In general, programs such as the U.S. Department of Agriculture/EPA-funded National Water Quality Evaluation Project[2] have recommended management of nutrient applications as the most effective measures for controlling nutrient loadings. Implementation of this type of Best Management Practices would not be influenced by the Proposed Project.

25. Under Alternative 2A, relative to the Proposed Project, water for delivery to MWD would flow the additional length of the Colorado River between Parker and Imperial dams and the length of the Coachella Canal. This would increase evaporation of water and increase the likelihood of concentrating constituents such as selenium and perchlorate. Under Alternative 2B, water for delivery to SDCWA would flow the additional length of the Colorado River between Parker and Imperial dams. Evaporation of water may or may not increase under Alternative 2B, depending on the final design and operation of the pipeline linking the All American Canal to the SDCWA system (should a decision be made to design and construct such a pipeline).

    Assuming that both Alternative 2A and 2B increase evaporation, evaporation would not occur to the extent that selenium concentrations or perchlorate concentrations would drastically increase. Selenium has not been a problem in either the Coachella or All American canals. For example, selenium in the Coachella Canal averaged 3.3 μg/L for

[2] Priorities, the Key to Nonpoint Source Pollution, Final Report for the Project: "Guidance Document on Targeting of NPS Implementation Programs to Achieve Water Quality Goals, USEPA Office of Water Regulations and Standards, Washington, D.C., July 1987.

the period 1987 to 1999; selenium in the All American canal averaged 2.5 μg/L for the period 1970 to 1999; both canals are under the EPA Aquatic Life Criteria, Criterion Continuous Concentration standard of 5.0 μg/L. Average selenium at Parker Dam is 2 μg/L. Thus while evaporation and concentration of selenium could occur, additional evaporation would not cause selenium levels to exceed the 5.0 μg/L standard.

As described in EPA response 23, perchlorate concentrations would decrease in the Colorado River and thus would not be of concern for this alternative.

26. No actions have been taken with regard to the National Stream Quality Accounting Network (NASQAN), but the co-lead agencies would support efforts to obtain funding to continue the monitoring.

27. Analysis of available information and experience at Owens Lake and at the Salton Sea shows a substantial difference in driving forces that create dust emissions, as well as substantial differences in the composition of Owens Lake sediments versus those at the Salton Sea. The frequency of higher wind speeds is greater at Owens Lake than at the Salton Sea. Experience at Owens Lake has shown that there is a strong correlation between sand motion and PM_{10} emissions. There are substantial deposits of sand on the Owens Lake bed surface and numerous sand dunes surrounding the area. There is very little sand in the areas of the Salton Sea that would be exposed by the drop in sea elevation. Soil chemistry and temperature ranges at the Salton Sea differ markedly from those at Owens Lake. The combination of weaker driving forces for emissions at the Salton Sea and different soil chemistry support the conclusion that exposed sediments at the Salton Sea will probably not be as emissive as they have been at Owens Lake. As identified in section 3.7.3, implementation of Mitigation Strategy 2 would reduce significant air quality impacts at the Salton Sea.

28. Please see response no. 27.

29. Please see response no. 27.

30. Please see response no. 27.

31. The level of analysis provided in the QSA PEIR is appropriate for a program-level document. The IID Water Conservation and Transfer Project EIR/EIS is a project-level document and describes the water conservation and transfer project in greater detail than the QSA PEIR. It is appropriate that more specific details regarding impacts be included in the IID EIR/EIS. The QSA PEIR identifies the maximum air quality impact that could occur as a result of the decreased surface elevation of the Salton Sea, however, and identifies a measure that would mitigate this impact. This measure (Mitigation Strategy 2) would mitigate impacts to affected tribal land.

32. The QSA PEIR is not required to identify mitigation measures for all projects considered in the cumulative impact analysis. Each project considered in this analysis must undergo its own environmental review, at which time mitigation measures specific to the impacts of that project would be identified as required. Similarly, the QSA PEIR identifies mitigation measures that would reduce the impacts of the Proposed Project to less than significant levels. These mitigation measures would reduce the significant cumulative impact created by the combined impacts of the Proposed Project and other projects in the area to less than significant.

33. The use of water conservation and fallowing is technically feasible and therefore identified as a mitigation measure. It also is considered a part of the alternatives to the Proposed Project, including Alternative 4, which could involve fallowing in addition to that which is part of the Proposed Project in order to lessen impacts to the resources of the Salton Sea. It will be up to the decisionmakers for the co-lead agencies to determine which mitigation measures are to be implemented. Additional measures to reduce potentially significant air quality impacts are included in section 3.7.3.2.

34. The Final PEIR has been revised to include a discussion of the new $PM_{2.5}$ and 8-hour ozone standards in section 3.7.1.2.

    The impacts of proposed construction activities are assessed qualitatively in the PEIR since specific information related to equipment usage needed to perform these activities is unknown at this time. These impacts will be quantitatively analyzed in subsequent project-specific environmental documentation with the use of criteria that will determine the significance of the impact of project emissions to ambient ozone and $PM_{2.5}$ levels. These criteria will be applicable to both the one- and eight-hour ozone averaging periods. However, the Final PEIR includes additional measures to minimize $PM_{2.5}$ emissions from proposed construction activities that would be implemented in the event that these activities exceed an emission significance threshold.

    The IID Water Conservation and Transfer Project EIR/EIS includes quantitative analyses of proposed construction activities. The results of these analyses show that the only significant air quality impacts from proposed construction actions would occur if the construction of on-farm measures were undertaken to conserve more than 25 to 30 KAFY in any given year. If this were to occur, the action would be evaluated under the General Conformity Rule to ensure that emissions from the action would conform to the State Implementation Plan and would therefore be less than significant.

35. Please see the response to comment 5 above.

36. Please see the response to comment 5 above.

37. The discussion of using formerly submerged land for agriculture or other purposes, such as recreational uses, has been deleted from section 3.4 of the PEIR.

38. See response to comment 5 above. Figure 1.1-2 has been modified to include more tribes that may be concerned about potential QSA impacts. Copies of the NOA or the Draft PEIR were provided to the Indian bands or tribes most likely to be concerned with the QSA's potential impacts, listed under response no. 5 above.

39. Section 3.2.16 of the PEIR describes the resources of the Salton Sea and the decline that is expected to occur as a result of the Proposed Project. In response to this comment, additional information involving bird and fish kills has been added to this section. Section 1.5 describes the Salton Sea Restoration Project.

40. The mitigation strategies referenced in the comment were developed as a part of the discussions with the U.S. Fish and Wildlife Service regarding compliance with Section 10 of the federal Endangered Species Act and, as such, were intended to mitigate for the impacts of the Proposed Project on species listed as threatened or endangered under that Act. They have secondary beneficial effects to ameliorate the impacts to other environmental resources, such as water quality. Please note that Mitigation Strategy 1

(development and maintenance of foraging ponds) has been removed from consideration due to U.S. Fish and Wildlife Service and California Department of Fish and Game concerns regarding the potential for the ultimate success of this approach and the absence of a suitable back-up position if the foraging pond approach failed. Mitigation Strategy 2 is still considered a viable mitigation measure, and a more detailed discussion of the feasibility of using conserved water to minimize impacts to the Salton Sea is provided below.

CEQA requires that there be a clear nexus between the impact and the mitigation measure (*Nollan vs. California Coastal Commission* [1988] 107 S.Ct. 3141). The implementation of Mitigation Strategy 2 would mitigate significant, project-specific impacts that were identified in the PEIR as a result of the declining water volume or water surface elevation of the Salton Sea (as noted in EPA response 19, significant impacts from the bioaccumulation of selenium would not occur). There is no requirement under CEQA to develop mitigation measures for less than significant impacts.

Under Mitigation Strategy 2, water that would reach the Salton Sea would maintain salinity and elevation changes on the baseline trajectory and thus avoid biological, recreational, air quality, and cultural resources impacts resulting from Project-related inflow reductions. The amount of such water used to mitigate effects of the Proposed Project on biological resources and the number of years over which that conserved water would reach the Salton Sea would be based on the projection of when salinity concentrations would reach a level at which forage fish (principally tilapia) can no longer complete their life-cycle in sufficient numbers to sustain fish-eating bird populations. By maintaining suitable salinity conditions in the Salton Sea, IID would ensure continued persistence of fish (and therefore fish-eating birds) for a period consistent with that projected under the no-project alternative.

Two elements of uncertainty were considered in defining the increment of impact associated with the water conservation and transfer component of the Proposed Project: (1) the uncertainty associated with the projection of when the salinity threshold (i.e., 60 ppt) for reduced fish reproduction would be reached and (2) the uncertainty associated with the accuracy of the threshold. The uncertainty associated with defining when the threshold would be reached was addressed through the modeling of the salinity in the Salton Sea. To account for the variability in the factors that influence salinity (e.g., hydrology), multiple runs of the Salton Sea model were made in which the variables were allowed to differ in each iteration. From these model runs, the probability (mean and 5/95 percent confidence bounds) of the projected salinity trajectory under No-Project (Future Baseline) was determined (Figure 1). These projections indicate a 90 percent probability that the actual salinity trajectory will fall between the lines representing the 5 and 95 percent confidence bounds. The mean of the modeled projections indicated that salinity in the Salton Sea would reach 60 ppt under the No-Project (Future Baseline) in the year 2023.

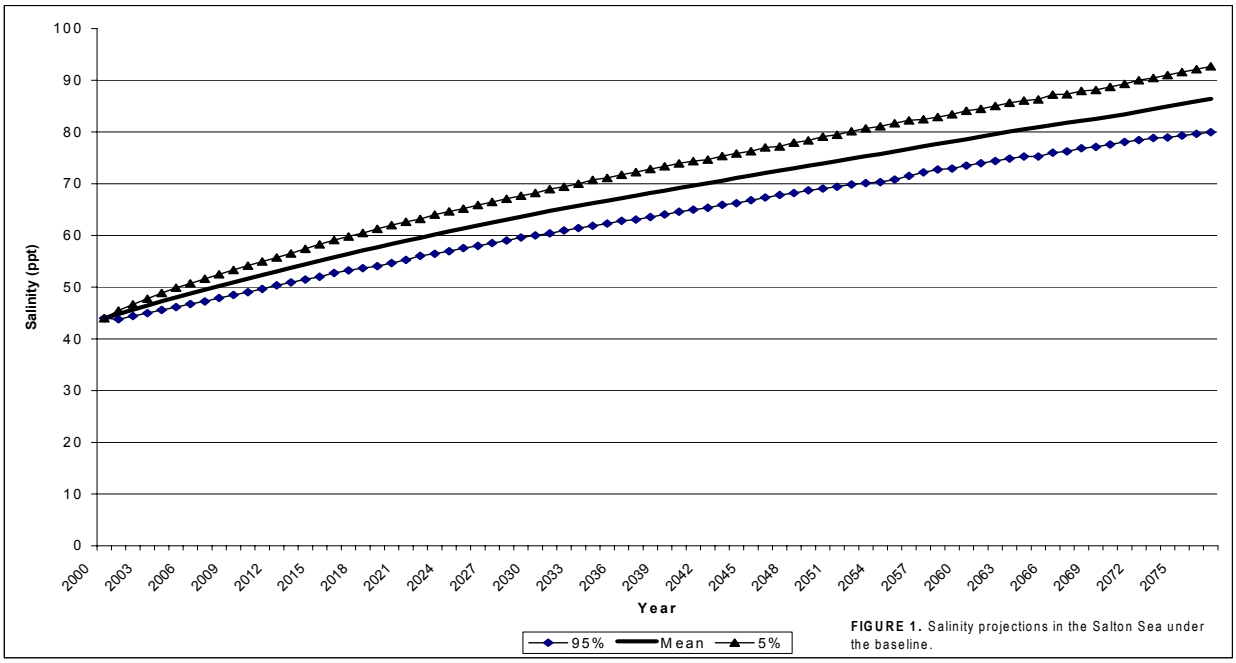

FIGURE 1. Salinity projections in the Salton Sea under the baseline.

The best available information suggests that growth, survival, and reproduction of tilapia would begin to decline at a salinity of about 60 ppt (Costa-Pierce and Reidel 2000). However, because of the complexity of the Salton Sea ecosystem and other factors that contribute to reproductive success of tilapia, the actual threshold could be lower or higher than 60 ppt. Available data are insufficient to gain better precision on the threshold or to calculate confidence bounds. Therefore, to account for the uncertainty regarding the actual threshold, IID, U.S. Fish and Wildlife Service, and California Department of Fish and Game (for permitting and Endangered Species Acts compliance purposes) agreed to counteract the uncertainty by extending the period that such water would be released to the Salton Sea by 7 years. In lieu of using the mean projection of the year in which 60 ppt would be reached in the Salton Sea (i.e., 2023), IID would use the year corresponding to the 95 percent confidence bound (i.e., 2030). Given the anticipated variation in precipitation, hydrology, and other factors, the model projected a 95 percent probability that a salinity of 60 ppt would be reached in the Salton Sea in 2030 or earlier under the No-Project condition (Future Baseline).

Under this revised strategy, the potential for take of covered fish-eating birds resulting from implementation of the water conservation and transfer component of the Proposed Project would be avoided by water reaching the Salton Sea. The amount of such water would be sufficient to offset the reduction in inflow to the Salton Sea caused by the Proposed Project and to maintain salinity in the Salton Sea at or below 60 ppt until the year 2030. The annual amount of water would be equal to the actual inflow reduction caused by the water conservation and transfer component of the Proposed Project plus or minus an amount of water necessary to maintain the target salinity trajectory. This trajectory would correspond to the salinity projection for the 95 percent confidence bound (see Figure 1) until 2030. However, because of the continued threat of potential flooding of lands adjacent to the Salton Sea, IID would not be required to have such water reach to the Salton Sea if that water would increase the surface elevation of the Salton Sea above the levels established by the projected elevation change associated with

the Proposed Project (Figure 2). That is, IID would not be required to have water reach the Salton Sea in years in which the water surface elevation was at or above the elevation projection for the Proposed Project described in Figure 2 due to unforeseen increases in elevation (e.g., increased inflow from a major storm event). In addition, IID could discontinue having water reach the Salton Sea if a Salton Sea restoration project were implemented or if it could be demonstrated that tilapia were no longer successfully reproducing in the Sea.

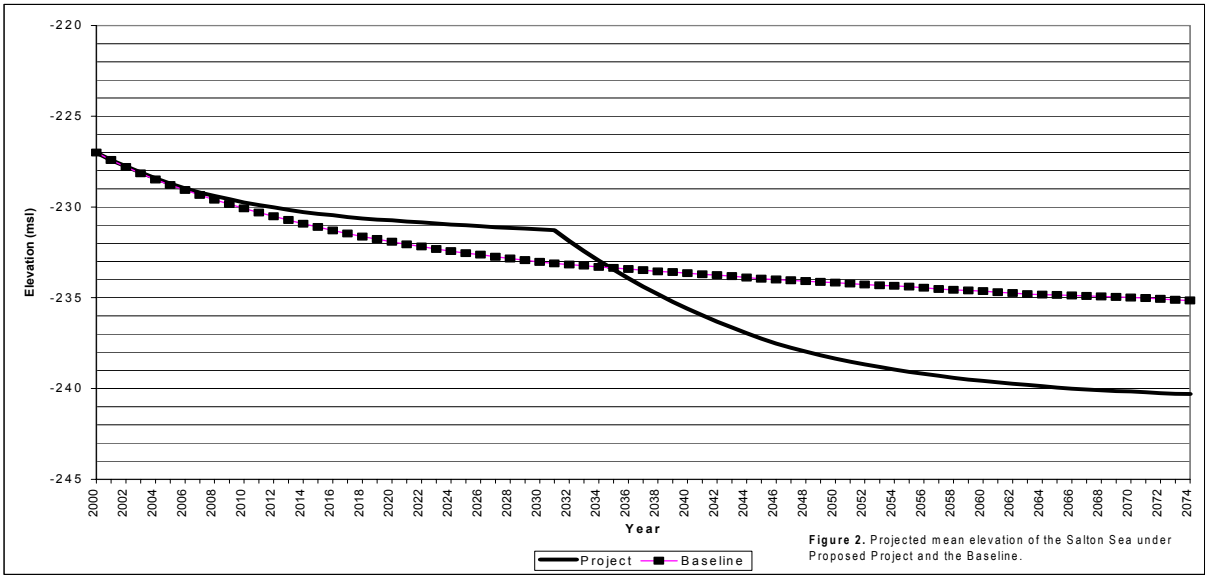

Figure 2. Projected mean elevation of the Salton Sea under Proposed Project and the Baseline.

Water sources to offset Proposed Project-related inflow reductions could be acquired by IID by fallowing in the Imperial Valley or by using any other legally permissible water provided to IID for this purpose by other parties to the QSA, by state or federal agencies, or by any other third parties willing to contribute to the mitigation effort, or any combination of the foregoing, after any appropriate subsequent environmental review. The co-lead agencies recognize that fallowing is controversial. The purpose of the PEIR is to evaluate the impacts of different conservation methods so that relative impacts can be compared and the co-lead agencies can make an informed decision on whether and how to proceed with the QSA.

The amount of water reaching the Sea would be calculated annually based on the proportion of efficiency conservation (e.g., system and on-farm) and fallowing used to generate the water for transfer. As previously described, the amount of water reaching the Sea annually would match the anticipated Project-related reduction in inflow plus or minus any increment necessary to maintain the salinity trajectory, but not to exceed the elevation levels projected for the Project as described above.

By maintaining suitable salinity conditions in the Sea, IID would ensure continued persistence of fish (and therefore fish-eating birds) for a period consistent with that projected under the Future Baseline. Under this approach, the level and duration of use of the Salton Sea by fish-eating birds would be expected to be the same as under the Future Baseline. In addition, maintaining the salinity trajectory associated with the 95 percent confidence bound until 2030 would result in a deceleration in the rate of salinization in the Sea. This improvement over the Future Baseline likely would provide

indirect benefits to salt-sensitive species, including several of the sport fish species that comprise the basis for the recreational sport fishery.

Avoiding salinity impacts also would result in the avoidance of biological impacts associated with changes in surface elevation. Because water surface elevation in the Salton Sea under this strategy would be held at or above the No-Project (Future Baseline) projections, conservation-related changes in the use of nesting islands by covered species would not occur as a result of the Project. Likewise, potential impacts on the tamarisk scrub community adjacent to the Sea (e.g., shoreline strand) would not be affected by the Project. Implementation of this strategy also provides the ancillary benefit of allowing time for a Salton Sea restoration project to be developed.

41. A portion of the activities to be implemented by the Coachella Valley Water Management Plan (CVWMP) (published in 2000) is considered part of the QSA; the remainder is not. The Draft PEIR evaluating the environmental impacts of the CVWMP is expected to be released in June 2002. Section 2.5.2 of the PEIR states that "With the implementation of the Proposed Project, from 52 to 152 KAFY of additional Colorado River and exchanged SWP water *would be used to replace current groundwater use, or would be used for direct groundwater recharge*" (italics added). The non-QSA portion of the CVWMP is described in section 4.2.16, as one of the projects considered in the cumulative impact analysis. As noted in section 4.2.16, the need to pump groundwater would be reduced by increased use of Colorado River water, implementation of various water recycling programs, and conservation measures to decrease the consumption of water in the Coachella Valley. Water also would be gained through a number of sources other than the Colorado River, including recycled water, desalted agricultural drain water, municipal and industrial conservation, and golf course conservation. CVWD does not have legal authority to impose any pumping restrictions on the area. Thus, no additional information is necessary.

42. The commenter correctly notes that CEQA does not require an environmental justice analysis. This analysis is, however, included in both the IA EIS and the IID Water Transfer and Conservation EIR/EIS, as required by NEPA.

43. This comment is noted. In the interest of consolidating the analysis pertaining to a given resource in one location, the original formatting has been retained.

References/Persons and Agencies Contacted

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