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WATER SUPPLY IMPROVEMENTS

February 29, 1996

VIA FACSIMILE
AND FIRST-CLASS MAIL

Ms. Maria C. Morrison
Project Engineer
East Bay Municipal Utility District
375 Eleventh Street
Oakland, CA 94607-4240

Re: *Comments on EBMUD's Notice of Preparation and Initial Study
For the Folsom South Canal Connection Project EIR*

Dear Ms. Morrison:

This firm serves as special legal counsel to the County of Sacramento and Sacramento County Water Agency (collectively referred to as "County"). This letter provides the County's comments regarding EBMUD's Notice of Preparation ("NOP") and the Initial Study for the Folsom South Canal ("FSC") Connection Project environmental impact report ("EIR"). The County appreciates the opportunity to comment on the NOP and Initial Study.

The County's major concerns are as follows:

1. As the County has now explained many times, EBMUD has not conducted an analysis of alternatives to an FSC project that would legally support a decision to approve such a project. The NOP and the Initial Study do not indicate the level of alternatives analysis that will be performed for the FSC Connection Project EIR, but strongly suggest that the required level of analysis will still be lacking. EBMUD must discuss and consider in its EIR a reasonable range of feasible alternatives to the FSC Connection Project before proceeding with the project. These feasible alternatives, include, but are not limited to, the five EBMUD/Sacramento-Area joint project alternatives identified in EBMUD's February 27, 1996 Staff Report on the status of water supply activities related to

EBMUD's Updated Water Supply Management Plan ("WSMP"),¹ and others that have been identified by the County over time.

2. The Initial Study contains or relies upon an inadequate evaluation of impacts and cumulative impacts. The Court's decision in *EDF v. EBMUD* (Alameda County Case No. 425,955) does not obviate the need for a thorough CEQA analysis. Moreover, numerous components of the Court's Physical Solution remain unresolved, and the nature of these components directly affects the hydrologic analyses required to assess the impacts of American River water deliveries via the FSC. These unresolved components include, but are not limited to, the following: (1) the reservation of 60,000 acre feet annually for fishery purposes during the period mid-October through June; (2) operational criteria to address storage reservoir issues; (3) the amount of water necessary to meet only the demands of customers within EBMUD; and, (4) the directive for EBMUD to use its best efforts to divert as much water as possible during those times when instream flows are least required for protection of environmental interests and public trust values.

3. The Initial Study's reliance on hydrologic modeling conducted for the Updated WSMP EIR is improper. We have previously explained the inadequacies. In addition, the modeling is now outdated. The time period used in the Updated WSMP EIR did not include all of the available data and modeling scenarios, and did not include all current and proposed operational agreements (*i.e.*, Reoperation of Folsom Dam and Reservoir, "Fish-doubling" flows specified in the Anadromous Fish Restoration Program (AFRP), the Sacramento Area Water Forum's ("Forum") Plan). More appropriate hydrologic modeling, including appropriate "base condition" and "future no-action" scenarios, is needed to adequately address impacts and cumulative impacts due to hydrologic alterations under the proposed FSC Connection project

4. The lack of technical evaluation of the cumulative impacts of the proposed project, in light of the numerous recent regional and local regulatory developments, and reasonably foreseeable water supply projects (*i.e.*, AFRP provisions, the Forum's Water Plan "F-Pattern" fish flows), is a significant flaw in the environmental analysis.

A general discussion of the foregoing concerns is provided below, followed by specific comments on the Initial Study.

¹ These alternatives are identified and discussed on pages 13 through 21, and Figures 5A through 5E, of the Staff Report.

A. *General Comments*

1. *Alternatives Analysis*

The FSC Connection Project EIR must consider and discuss a reasonable range of feasible alternatives to the project in order to comply with CEQA. EBMUD may not rely upon and incorporate the Updated WSMP EIR alternatives analysis in the FSC Connection Project EIR, because the Updated WSMP EIR alternatives analysis was inadequate and failed to comply with CEQA. Moreover, in its findings on the Updated WSMP EIR, EBMUD's Board acknowledged that any future project involving a FSC connection component must begin *de novo*, because no project involving the use of EBMUD's American River contract entitlement via a FSC connection "was reviewed adequately in this EIR to satisfy the need for a program-level alternatives analysis." (See EBMUD Board's "Findings Regarding EBMUD's Updated Water Supply Management Program," at p. 33, and related EBMUD Board Resolution Nos. 32803 and 32808.)

As to specific alternatives, EBMUD's diversion of its American River contract entitlement from the Sacramento River must be evaluated as a feasible alternative to diversions via the FSC Connection Project. In this regard, the FSC Connection Project EIR must discuss and consider at least the five EBMUD/Sacramento-Area joint project alternatives identified in EBMUD's February 27, 1996 Staff Report cited above. The County noted in its March 12, 1993 comments to EBMUD, its January 20, 1995 correspondence to EBMUD, and its September 7, 1995 correspondence to EBMUD, that the failure to consider such alternatives constitutes a significant flaw in EBMUD's CEQA analysis.

Moreover, the FSC Connection Project EIR must consider a reasonable range of feasible alternatives to the project because the FSC Connection Project is inconsistent with the Updated WSMP EIR, and the findings of the EBMUD Board of Directors regarding the preferred alternative under the Updated WSMP. The FSC Connection Project is inconsistent with the Updated WSMP EIR because the prior FSC project described and analyzed within Composite Program IV of the Updated WSMP EIR is significantly different from the FSC Connection Project presently proposed. For example, the prior FSC project was not a stand alone project. Rather, it was described and evaluated within a larger composite program consisting of various elements including Mokelumne River water conjunctive use. Moreover, the prior FSC project connected to the end of the existing FSC, and the pipeline was 16 miles long and 8 feet in diameter, with a maximum flow rate of 225 cubic feet per second (cfs). (See Updated WSMP EIR, at 7-33, 7-34.) In contrast, the presently proposed FSC Connection Project connects to the FSC at the existing EBMUD / USBR contract turn out point of

delivery at Grant line Road, and the pipeline proposed is twice as long (32 miles) and two feet larger in diameter (10 feet), with more than twice the maximum flow rate (500 cfs). (Initial Study, pages 5-6.) In addition, EBMUD has effectively decided to proceed with a program or project which significantly differs from its previously adopted WSMP preferred alternative -- Composite Program II. Given these circumstances, it is not appropriate for EBMUD to tier the alternatives analysis in this project-level EIR to the Updated WSMP EIR.

2. Inadequate Impacts Analysis

The Initial Study uses the flows established in the Hodge Decision as significance thresholds for determining significant impacts to the public trust resources, and states that because EBMUD diversions would not result in flows below "Hodge flow" levels, no significant impacts would occur. (Initial Study, at 11, ¶ 3; 23, ¶ 1.) The Interim Reoperation EIR/EA (SAFCA 1994) is cited in support of using "Hodge flows" as a significance threshold with a subsequent determination of less-than-significant impacts. However, the obligation imposed by CEQA is to analyze the impacts of a project, including cumulative impacts. For flow-related impacts, the frequency, duration and magnitude of flow changes should be discussed, and their significance analyzed and evaluated. Bare use of "Hodge flows" as significance thresholds, and the resulting conclusion of less-than-significant hydrologic impacts to public trust resources in the LAR for EBMUD's FSC Connection Project EIR, is inappropriate for the following reasons.

(a) Operational Considerations

The Initial Study's application of "Hodge flow" levels as significance threshold did not consider and account for potential operational changes to Folsom Reservoir, which may affect storage and flow levels in months and years subsequent to EBMUD diversions.

The Initial Study assumes that as long as EBMUD diversions do not reduce flows below "Hodge flows," impacts to public trust resources will be less-than-significant. As presented in the Initial Study Project Description, diversions from the FSC would be permitted based on an instantaneous evaluation of whether instream flows exceeded "Hodge flows." Operationally, EBMUD could divert any time flow levels exceeded those of the Hodge Decision. However, EBMUD's diversions would remove water from the system that otherwise would have been available for meeting CVP-wide environmental or contract delivery obligations. The removal of water by EBMUD could, under some circumstances, require higher releases from Folsom Reservoir to simultaneously account for diversions by EBMUD and provide water for meeting other CVP-

wide obligations. This circumstance could result in lower storage levels in Folsom reservoir.

Lower storage levels have several potential impacts to fishery resources in the LAR. First, EBMUD diversions may reduce storage levels such that in subsequent months, despite complete curtailment of EBMUD diversions, storage may be insufficient to maintain "Hodge flows" and meet the target carryover storage of 650 TAF in Folsom Reservoir. Under this circumstance, although the Initial Study assumes that the conditions of the Hodge Decision would be met, EBMUD's diversions could nonetheless result in flow levels below "Hodge flows" in subsequent months. In addition, depending on the hydrologic conditions, storage levels could remain "depressed" in subsequent water years, resulting in lower flows than would have occurred without EBMUD's diversions. Second, during the spring and summer months, water temperature is inversely related to flow levels. Consequently, even if flows remain above levels specified in the Hodge Decision, reductions in flow levels would increase water temperatures with potential adverse impacts to fishery resources. Without an evaluation of flow levels and water temperatures under the project over the 70-year period of record, potential impacts to fishery resources cannot be assumed to be less-than-significant even with compliance to the Hodge Decision.

(b) Multiple Impact Assessment Tools

The Initial Study improperly relies on the Hodge Decision as the *sole* impact assessment tool in evaluating potential impacts to public trust resources, particularly fishery resources. Although "Hodge flow" levels were used as significance thresholds for the Interim Reoperation EIR/EA, water temperatures were also evaluated, and an impact determination for fishery resources was made in consideration of both flow and temperature. "Hodge flows" were used as significance thresholds only for physical habitat impacts, and not water temperature conditions.

The Initial Study relies solely on maintaining "Hodge flows" for a determination of less-than-significant impacts, with no additional consideration of temperature-related impacts. Water temperature data collected and evaluated subsequent to the Hodge Decision has revealed statistically significant relationships between water temperature and flow in the spring and summer months. Given the interaction between temperature and flow, EBMUD's proposed diversion may result in higher water temperatures and adverse impacts to anadromous salmonids due to lower flows levels, despite compliance with the Hodge Decision. This potential impact is not addressed in the Initial Study. In addition, the United States Bureau of Reclamation ("Bureau") has

developed a chinook salmon mortality model for the LAR which should have been used as an additional impact assessment tool in the Initial Study.

(c) Use of Best Available Information

A substantial amount of new information regarding habitat requirements for anadromous salmonids in the LAR has been developed subsequent to the Hodge Decision. Additional information addressing optimal instream flows and temperatures for salmonid spawning and incubation, rearing, and outmigration, has been developed subsequent to the Hodge Decision, some of it in connection with the Court's continuing jurisdiction. In addition to the acquisition of new data, at least two initiatives have been undertaken since the Hodge Decision, which provide other authoritative and documented sources upon which to base significance thresholds: (1) development of the AFRP under the Central Valley Project Improvement Act (CVPIA); and (2) the Forum's development of a flow pattern for the LAR to maximize instream beneficial uses within the constraints of water availability.

As part of the AFRP development process, technical teams consisting of fishery biologists developed specific recommendations for each Central Valley Project (CVP) stream, in order to achieve the "doubling goal" of the AFRP. As part of this effort, flow levels were recommended for chinook salmon and steelhead in the LAR.

As part of the Forum process, the Forum's surface water negotiation team held working sessions with fishery biologists who have recognized expertise on LAR fisheries issues. The objectives of the working sessions were to develop a set of common recommendations for maximizing benefits to fish species in the LAR, and to develop operational criteria for the LAR that maximize fishery benefits within the constraints of water availability. The working sessions led to the development of a flow pattern (the "F-Pattern") which the participants generally regarded as providing maximal instream benefits for fishery resources. The F-pattern was similar to the AFRP flow recommendation in providing higher flows when water availability permitted, with lower flows in years of low water availability. During the development of the F-pattern, a Hodge flow based pattern was also evaluated. In comparing the two patterns, working session participants concluded that over the range of water supply availabilities, flows released on the F-pattern provide better conditions than the Hodge flows for fall-run chinook salmon. (Point 6, Draft Agreement Statements from the Fish Biologist Working Session Participants.) This conclusion and the AFRP's recommendations require evaluation of the proposed project's impacts in light of these criteria.

Both the AFRP flow recommendations and the F-pattern recognized an increase in physical habitat availability for anadromous salmonids for some flow levels above "Hodge flows." The fishery biologists involved in the AFRP and F-pattern development regarded this greater physical habitat availability as biologically significant for anadromous salmonids. Based on the flow recommendations in the AFRP and the F-pattern, diversions which reduce flow levels could reduce physical habitat availability, and thereby impact anadromous salmonids, even if flow levels exceed "Hodge flows." Therefore, the assertion that flow alterations under the proposed project would result in less-than-significant impacts to fishery resources, provided that flows exceed "Hodge flow" levels, is not supported with the currently available information. As a result, an adequate assessment of potential fishery impacts necessitates an evaluation of the frequency and magnitude of flow and temperature alterations under the proposed project, in light of the F-pattern and AFRP recommendations.

(d) Enhancement Features in the Interim Reoperation EIR/EA

Enhancement measures were included in the Interim Reoperation EIR/EA, and these measures supported a conclusion of less-than-significant impacts to fishery resources for that project. Such enhancement measures must be included in the FSC Connection Proposal EIR before any use of the "Hodge flows" as a significance threshold.

Impacts to LAR fisheries from the Folsom Interim Reoperation were considered less-than-significant, because reoperation did not increase the frequency of occurrence of flow levels below "Hodge flows," did not reduce flow levels when flows were less than "Hodge flows" under the No-Action Alternative, *and* because the project included enhancement measures designed to benefit the fishery resources. The Interim Reoperation project included reconfiguration of Folsom's shutter array to allow for better management of the cold water pool, thereby providing more suitable water temperatures for chinook salmon. This enhancement feature of the project resulted in substantially improved conditions for fishery resources in the LAR, which led to the less-than-significant impact determination for fishery resources. In contrast, EBMUD's proposed project does not include any enhancement features, yet the project will result in lower flows and potentially higher water temperatures in the LAR. With no project component to improve conditions for fishery resources, a less-than-significant impact determination is not justified.

3. Inadequate and Insufficient Hydrologic Modeling

In evaluating potential impacts under the proposed FSC Connection Project, EBMUD improperly relies on the hydrologic modeling conducted for the Updated WSMP EIR. This modeling is inadequate and inappropriate for assessing the hydrologic impacts associated with EBMUD's diversion at the FSC for reasons explained in previous comments by the County, and for the following reasons:

- The hydrologic modeling for the Updated WSMP EIR was based on a 57-year period of record. Currently, the best available information covers a 70-year period of record.
- Significant changes in the regulatory environment for the CVP have occurred subsequent to the Updated WSMP EIR hydrologic modeling. These changes must be incorporated to provide an adequate and accurate impact analysis. Specifically, the Updated WSMP EIR base condition hydrologic modeling did not include: (1) the 1995 Bay/Delta Water Quality Control Plan, (2) the 1993 Winter-run chinook salmon biological opinion, (3) the 1994 Delta smelt biological opinion, and (4) the Interim reoperation of Folsom Reservoir.

The first three regulatory changes noted above govern CVP-wide operations for environmental concerns. Interim reoperation applies only to Folsom Reservoir, but may secondarily influence CVP-wide operations. Folsom Reservoir is operated in part to assist in meeting CVP-wide environmental and water delivery obligations. EBMUD's proposed project may alter the operation of Folsom Reservoir, and reduce the amount of water in the CVP system. These conditions may impair the CVP's ability to meet environmental or water delivery obligations. The failure to include current regulatory conditions affecting CVP-wide operations in the EBMUD hydrologic modeling results in an impact analysis which cannot reasonably be assumed to reflect probable conditions under the project.

For the future (cumulative) condition, hydrologic modeling did not include recent regulatory developments and reasonably foreseeable local water supply projects, including, but not limited to: (1) implementation of the AFRP, (2) provision of refuge water supplies under the CVPIA, (3) provision of variable 390-750 TAF for Trinity River flows, (4) water diversions under P.L. 101-514, (5) the City of Sacramento's water supply expansion project, and (6) the implementation of the Forum's Plan, including reoperation of the Folsom Dam to provide F-pattern flows.

These water supply projects will influence how the CVP is operated, how much water is allocated for environmental concerns, and the level of water delivery demands on the CVP. Without inclusion of these expected future actions, the hydrologic modeling for EBMUD's FSC Connection Project cannot be regarded as a reasonable approximation of the future hydrologic conditions, and therefore, impact determinations based on the modeling cannot be supported.

4. Inadequate Cumulative Impacts Analysis

For most resource categories in the Initial Study, an analysis of cumulative impacts is absent. In the few cases where cumulative impacts are addressed, the hydrologic modeling used as the basis for the analysis cannot be considered a reasonable approximation of future hydrologic conditions under the proposed project. The deficiencies in the hydrologic modeling of the future (cumulative) condition noted above, greatly influence any cumulative impact determination. Erroneous impact determinations are of particular concern for fishery resources and CVP contract deliveries.

The biological opinion for winter-run chinook salmon established temperature criteria to be met during specific periods of the year in the upper Sacramento River. The primary means of meeting these temperature requirements are through release flows at Shasta Reservoir, requiring a minimum level of storage in Shasta Reservoir. Due to variable hydrologic conditions, water temperatures exceed the temperature criteria in some years. The diversion of American River water proposed by EBMUD in addition to anticipated increases in diversions in the Central Valley could reduce water availability for meeting water temperature requirements for winter-run chinook salmon. Potential impacts to winter-run chinook salmon due to the proposed project need to be evaluated in terms of (1) an increased frequency of violations of temperature requirements, and (2) the magnitude of changes in water temperatures relative to the temperature requirements established in the biological opinion.

The Bureau also has contractual agreements specifying the amounts of water to be supplied to agricultural, municipal, and industrial users on an annual basis. However, in years of low water availability, deliveries may be curtailed. The additional diversion of American River water proposed by EBMUD would reduce water availability in the CVP system and American River Division and may affect CVP deliveries. Potential impacts on water deliveries due to the proposed project must be evaluated in terms of (1) an increased frequency of occurrence of delivery deficiencies, and (2) an increase in the magnitude of the delivery deficiencies.

B. *Specific Comments*

Section 1.0 *Introduction*

Page 3, ¶ 1

The Initial Study incorporates the Updated WSMP EIR by reference, and states: "Information contained in the WSMP EIR... is based upon information available from the evidence in *EDF v. EBMUD* and is consistent with the Physical Solution..." EBMUD has available to it considerable information concerning American River resources beyond the testimony and evidence presented during *EDF v. EBMUD*. This information must be used in the CEQA analysis.

Page 3, ¶ 4

The Initial Study states: "Consideration is given to the direct, indirect, short-term, and long-term impacts that could potentially arise from project construction and operation." However, throughout the Initial Study, cumulative impacts are rarely addressed, and indirect impacts are not adequately considered in many cases.

Section 2.1 *Project Location and Description*

Page 6, ¶ 4

The Initial Study states that the FSC Connection pipeline "would be sized to provide an emergency water supply for EBMUD." The assumption that this source is available as an "emergency" water supply is erroneous. The conditions on the diversion are clear. If EBMUD desires a supply that is available at all times, it must move the point of diversion to the Sacramento River.

Section 2.2 *Study Area Definition, Environmental Setting, and Land Use*

Page 8, ¶ 1

The study area is defined as consisting of two components: the LAR study area and the FSC Connection area. It is inappropriate to restrict the area of evaluation to these two areas. The proposed project would divert water from the LAR and could alter the Bureau's operation of Folsom Dam. Folsom Dam is part of the CVP and alterations in its operations would have CVP-wide impacts. To fully evaluate potential impacts resulting from hydrologic alterations, the study area must encompass other CVP facilities potentially affected by changes in Folsom Dam operations.

Page 9, ¶ 1

Other diverters, diversion points, and diversion amounts within the LAR study area are not identified or discussed. This has particular importance in relation to assessing potential cumulative impacts, and providing background information on the relationship of the FSC Connection Project to other projects (i.e., the Forum's Plan, water diversions under P.L. 101-514, and the City of Sacramento's water supply expansion project).

Section 3.0 *Environmental Checklist*

Page 11, ¶ 3

The approach presented here, and echoed throughout the evaluation of impacts to water, biological resources, and recreation is that "... impacts are considered less-than-significant premised on compliance with the environmental protections imposed by the Hodge Decision." As discussed above, simplistic use of "Hodge flows" as a significance threshold for evaluating impacts to fishery resources is inappropriate for a number of reasons, and constitutes a significant flaw in the environmental analysis.

Page 14, ¶ 3

The Initial Study concludes that no impact would occur to land use and planning as a result of conflicts with applicable environmental plans or policies adopted by agencies with jurisdiction over the project. The basis for this conclusion is that agencies with a regulatory interest in the proposed project will have an opportunity to comment on the project. Providing regulatory agencies with an opportunity to comment on the project does not negate the possibility of potential conflicts with environmental plans or policies. Rather, it could serve to identify areas of potential conflict with a subsequent need for resolution. One area of potential conflict with environmental plans and policies is in water management in the LAR for fishery resources. Through the ARFP, the USFWS has endorsed flow levels in the LAR for anadromous salmonids which exceed "Hodge flows" in some water year types. EBMUD's diversions would reduce flows and could directly conflict with meeting ARFP recommended flows.

Page 16, ¶ 1

The Initial Study states that potential changes in American River flows under the proposed project would have no impact to agricultural resources or operations because, "The USBR is obligated to provide American River water to those entities who, like the District, currently hold valid water contracts." Although the Bureau has an obligation to deliver contract water to agricultural users, deliveries can be reduced in years of low water availability. EBMUD's proposed project would remove water from the CVP system which would

otherwise be available for meeting environmental or delivery obligations. EBMUD's diversions could increase the frequency of occurrence or magnitude of delivery deficiencies. The conclusion that there is no impact to agricultural resources or operations due to hydrologic alterations cannot be supported without a comprehensive evaluation of CVP-wide operations under the proposed project.

Page 17, ¶ 2

The FSC Connection Project's purpose is identified in the Initial Study as helping meet current and future demands, and decreasing the reliance on the Mokelumne River. However, page 2 of the Initial Study states that actual demand in 2020 will be 229 mgd, approximately 4 percent above current levels. Diverting from the FSC to meet a 4 percent demand increase is inappropriate. Alternative diversion locations should be thoroughly investigated.

Page 23, ¶ 1

See comments regarding impacts analysis.

Page 23, ¶ 3

The Initial Study's discussion of impacts resulting from discharge into surface waters or other alteration of surface water quality focuses on the potential influence of construction activities, but does not address the potential influence of EBMUD's diversions on hydrologic conditions which may affect water quality. Reduced flows in the LAR due to EBMUD's diversions may result in higher water temperatures in the river despite compliance with the Hodge Decision. Higher water temperatures may occur during periods of diversion, or in subsequent months when EBMUD may not be diverting due to reduced reservoir storage. In addition, EBMUD's diversions may affect operations of Folsom Reservoir and other CVP reservoirs, and may thereby affect the Bureau's ability to meet Bay/Delta water quality standards. Hydrologic modeling of CVP-wide operations within the current regulatory environment, and in consideration of future CVP-wide regulations and actions, is required to assess potential water quality impacts resulting from hydrologic alterations under the proposed project. For the LAR, hydrologic modeling including water temperature modeling is necessary to evaluate potential flow related water quality impacts. As detailed above, compliance with the Hodge Decision does not negate the possibility of water temperature impacts in the LAR.

Page 24, ¶ 1

The Initial Study states that potential impacts to the amount of surface water in the American River are less-than-significant because, "EBMUD's water delivery under Hodge flows would reduce the amount of water in the American River by only 2 to 3 percent." The Initial Study also states that "Hydrologic modeling studies conducted by the District during the WSMP covered a 57-year period and showed that for all water year types, the effect of the District's water delivery on the river environment would be less-than-significant." Even setting aside the criticism of the hydrologic modeling presented previously, no basis is provided in support of the conclusions that (1) a 2 to 3 percent reduction in American River water is not significant, and (2) EBMUD's deliveries would have a less-than-significant effect on the river environment of the LAR.

Moreover, the conclusion regarding a 2 to 3 percent reduction in American River flows is misleading. This form of comparison disregards the *real* operational effect that could potentially occur due to EBMUD's deliveries. For example, there are likely times when EBMUD's deliveries would manifest as a change to river flows several months after EBMUD's deliveries. This effect of EBMUD taking its water could result in reductions in river flows over a much shorter duration of time than its implied yearly time frame. The reduction in flow may occur within a single month or several months, and may not even occur in the same year. This reduction could amount to a significant change in flow in a particular month or period of time. This discussion also ignores cumulative impacts.

Page 24, last ¶

The Initial Study simply states that "Groundwater would not be directly affected by the proposed project." This statement is made without technical support. While the nature of the project may not lead to direct impacts on groundwater, indirect impacts should be discussed based on an investigation of the groundwater-surface water connection. Potential cumulative impacts on groundwater through interaction of the FSC Connection Project and other proposed projects must be identified and evaluated.

Page 30, ¶ 1

The Initial Study's assessment of potential impacts to fisheries and aquatic habitats outside of the LAR is apparently restricted to the lower Sacramento River and Delta. An assessment of potential impacts to fisheries in the upper Sacramento River is completely lacking. Of particular importance are potential impacts to winter-run chinook salmon, although impacts to other runs of chinook salmon also must be evaluated. As discussed previously, EBMUD's diversions have the potential to affect operations of Folsom Reservoir and other CVP reservoirs including Shasta Reservoir. The Reasonable and Prudent

Alternatives (RPA) in the winter-run chinook salmon biological opinion specify water temperature objectives for sections of the upper Sacramento River to provide suitable conditions for winter-run chinook salmon spawning, egg incubation and juvenile rearing. Complying with the RPA is strongly influenced by storage levels in Shasta Reservoir. Because EBMUD's diversions may affect CVP operations, the proposed project could impact water temperature conditions for winter-run chinook salmon in the upper Sacramento River in two ways. First, the proposed project may increase the frequency of occurrence of water temperature violations in the upper Sacramento River. Second, the proposed project may not increase the frequency of occurrence of water temperature violations, but may, however, result in higher water temperatures in years when water temperatures exceed the criteria or in exceedances for longer periods. Depending on the frequency of occurrence and magnitude of water temperature increases, potentially significant impacts to winter-run chinook salmon could occur.

As noted in the Initial Study, the other runs of chinook salmon are currently under a status review by the National Marine Fisheries Service and could be listed during the life of the project. Although not currently listed, spring-run chinook salmon is a California species of special concern and as such, should be addressed in the Initial Study. Like winter-run chinook salmon, spring-run chinook salmon may be adversely affected by water temperature changes in the upper Sacramento River due to alterations in Shasta Reservoir operations. In addition, for evaluating potential impacts to chinook salmon in the Sacramento River one of the best available tools is the Bureau's Sacramento River Chinook Salmon Mortality Model. There is no indication that this tool was used in assessing potential impacts to chinook salmon in the Sacramento River.

Page 30, ¶ 2

See comments regarding impacts analysis. Also, the Hodge Decision was the basis for evaluating potential impacts to fishery resources in the LAR. However, Sacramento splittail were not considered in the development of "Hodge flow" levels, and therefore, the Hodge Decision provides no basis for evaluating impacts to this species. Splittail spawn over flooded vegetation and could be adversely affected if EBMUD's diversions reduced the frequency or extent of flooded vegetation along the LAR. An evaluation of hydrologic alterations in the LAR is necessary to assess potential impacts to splittail.

Page 31, ¶ 2

See comments regarding impacts analysis.

Page 31, ¶ 2

The Initial Study implies that because reconfiguration of Folsom Dam's shutter array is expected to substantially improve water temperature conditions for anadromous salmonids, EBMUD's diversions would not result in adverse water temperatures. This conclusion is erroneous. Even with shutter reconfiguration, unfavorable water temperatures would be expected to occur in some years and months, particularly in the spring and summer months. Increases in water temperatures when water temperatures are already unfavorable, could adversely affect fishery resources. Statistically significant relationships between water temperature and flow exist for the spring and summer months. If EBMUD's diversions reduce flows during the spring or summer months, water temperatures would be likely to increase above those expected with shutter reconfiguration. This may result in an adverse impact to fishery resources.

Page 33, ¶ 1

The Initial Study states that impacts to riparian communities along the LAR from potential hydrologic alterations due to EBMUD's diversions at FSC would be less-than-significant, because operations of Folsom Reservoir would have an overriding influence. This conclusion is erroneous. Although operation of Folsom Reservoir has changed the hydrologic regime of the LAR from the unregulated state which may have long-term consequences for the persistence and health of riparian communities along the LAR, the conclusion that EBMUD's diversions would have less-than-significant impacts on riparian communities is not supported. Diversions on the LAR, including EBMUD's proposed diversion, reduce flows in the river in the context of the existing reservoir operations. These flow reductions may, in and of themselves, reduce or alter the frequency of inundation of riparian vegetation along the LAR, and compound or contribute to existing problems. Without an evaluation of the frequency, magnitude and timing of flow alterations under the FSC Connection Project, conclusions on the impacts to riparian vegetation are unsupported.

Page 33, ¶ 2

The discussion immediately above similarly applies to the impact evaluation for emergent wetlands and ponds.

Page 33, ¶ 3

See comments regarding impacts analysis. In addition, a recent study has been completed on the relationship between cottonwood growth and flow levels in the LAR. (See Stromberg, J.C. (1995) *Fremont cottonwood growth in relation to American River stream flow and groundwater depth*. Report submitted to the U.S. Fish and Wildlife Service, Sacramento Field Office.) Potential impacts to

riparian vegetation under the proposed project should be evaluated in consideration of the flow recommendations of this study.

Page 44, ¶ 1

The Initial Study does not address potential aesthetic impacts resulting from reduced storage levels in Folsom Reservoir. The proposed project may result in lower water surface elevations in Folsom Reservoir, which could reduce the visual quality of the area.

Page 45, ¶ 2

The Initial Study fails to provide information to substantiate the conclusion that the pumping facilities at each end of the FSC connection would not result in any light or glare.

Page 46, ¶ 1

Many archeological sites have been identified within the drawdown zone of Folsom Reservoir. When exposed, these sites are vulnerable to destruction from vehicles and vandalism. Because the proposed project could result in lower storage levels in Folsom Reservoir, the frequency and duration with which archeological sites are exposed and vulnerable to impact may increase. This potential impact does not appear to have been addressed in the Initial Study, and therefore, the conclusion of no impacts due to hydrologic alterations is unsupported.

Page 49, ¶ 3

The Initial Study states that potential alterations in water surface elevations in Folsom Reservoir would be substantially greater under interim reoperation than under the proposed project, and, therefore, the proposed project would have less-than-significant impacts to recreation. This conclusion is erroneous. The appropriate evaluation is to assume implementation of interim reoperation as part of the hydrologic modeling, and then assess potential changes in water surface elevations in Folsom Reservoir under the project. Also, reoperation of Folsom Dam is intended to be interim in nature. Thus, potential recreational impacts would be temporary. EBMUD's diversion could result in long-term alterations in water surface elevations, and consequently recreational opportunities. In addition, boat ramp availability in Shasta and Clair Engle reservoirs may be adversely affected if the proposed project affects CVP operations such that water surface elevations are lower in these reservoirs. These potential recreational impacts must be evaluated in the FSC Connection Project EIR.

Ms. Maria C. Morrison
February 29, 1996
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Page 58, table

This table does not include any special status fish species that may be impacted by the proposed project (e.g. chinook salmon, steelhead, splittail, Delta smelt, longfin smelt).

Thank you for considering these comments.

Cordially yours,


Andrew M. Hitchings

AMH:lgs

cc: Robert P. Thomas
Robert A. Ryan
Keith DeVore