

DRAFT PEIS/R

The draft PEIS/R document states: "In addition to the site-specific [environmental] analysis, it is possible that further detailed system-wide analysis may be necessary during Phase III to determine the effects of projects with wide-reaching impacts." The Agency reads this to mean that CALFED expects to do additional programmatic EIRs as part of its program. If this is so, the Agency wonders just what this draft PEIS/R is intended to cover. It is understood that site-specific environmental documents will need to be prepared. But the Agency believes that the current PEIS/R must be comprehensive enough to cover the entire programmatic needs of the CALFED Program.

In section 2 the potential benefits of the water use efficiency program include making water available for transfers. Water transfers are then described as an important part of California's water management. The existence of an "open and active water transfers market" is presumed to provide incentives for implementing conservation measures. Yet one of the water use efficiency assurances is that participation in water transfers (as a buyer or seller) requires that the parties demonstrate their "high level" of water use efficiency, and that the buyer implement water measurement and volumetric pricing requirements. Such elements within and between the various documents and program purposes are discontinuous, and sometimes are at cross purposes.

PHASE II INTERIM REPORT

Introduction

The vision statement contains no mention of increased water supply reliability being derived from any sort of storage and/or conveyance system. The only supply enhancements mentioned derive solely from conservation and transfers. CALFED's vision appears to pre-suppose that Alternative 3 will not be the preferred alternative, or that storage will not be an option for any preferred alternative. Hence, the vision statement does not mesh with other PEIS/R documents.

Fundamental Program Concepts

The treatise on solving "California's water problems" contains a statement that "as our understanding of the Bay-Delta ecosystem has improved, we have also recognized additional environmental water needs, such as increased instream flows." Water users have committed to giving up nearly 1 million acre-feet of entitlement during the past four years for increased instream flows, yet ecosystem and fisheries problems still continue. Part of the mission of the CALFED Program is to determine the interrelationships of the many variables that have caused environmental damage in the Bay-Delta, such as toxic contaminants, overfishing, and introduced and exotic species. Focusing only on the time value of water pre-supposes that diversions and pumping the major contributors, and instream flows the only solution, to the Bay-Delta's problems.

Interrelationships

Water use efficiency interrelationships do not automatically mean that reduced demand will reduce diversions or fish entrainment effects. Particularly in the case of hydrologically closed basins, there is little real water savings to be had; diversions from these areas are not likely to diminish. In addition, the state's population is projected to increase; conserved water is likely to be used to keep up with demands in a given water user's service area, diverted and stored for

later use, or conserved and then transferred to another water user's service area. Total diversions from the Delta will not decrease.

Water transfer interrelationships contain many assumptions about how water transfers may work. CALFED should more clearly define the term "transfers." The CALFED Program should focus on water transfers that involve transportation across (or through) the Delta system. The issues as described do not adequately address the needs of water users regarding the ability to transfer water across the Delta more effectively.

Water storage interrelationships also contain assumptions that may not be accurate, particularly about the operations of storage facilities and the storage of conserved or recycled water. Most existing storage facilities are subject to the contractual obligations under which they were built and are operated. This can impact the amount and/or type of carry over water they are able to store.

Economic and financial interrelationships indicate that water users would be asked to pay the "full cost" of any "expensive" new supplies, and that this would automatically change perspectives on the cost-effectiveness of other measures. This assumption seems disingenuous; it implies that those water users that can afford it will be able to pay what water costs, and those that cannot will be left out of the market altogether. In particular, the report mentions that "there is incentive to reduce demand due to higher costs of obtaining water." Current policy for the implementation of urban BMPs and agricultural EWMPs requires that cost-effectiveness be based on the local perspective; CALFED seems to be attempting to alter this policy to require that it be based on the statewide perspective. This is not appropriate for areas that do not divert from the Delta, have no hydrologic connection to the Delta system, or that have relatively less expensive, locally-derived supplies.

System variability and the time value of water should not be the sole focus as the solution for the Delta's environmental problems. CALFED appears to be suggesting operational constraints at an early stage of the process by stating that diversions during high flow periods "must be operated in such a way that preserves most of the variability in the flow, ensuring that peak flows so important to ecosystem health still occur in the river." Criteria for diversions are then laid out. The implication is that off-stream storage will be used mainly (or perhaps only) for environmental flows.

On-site recreation development should be carefully designed to assure that all beneficiaries are identified, and that those beneficiaries pay for facilities construction, maintenance and continuing operation, according to current law.

Program Alternatives

The Water Quality Program presumes that the Delta was at one time a reliable source of high quality water that has since been degraded. In terms of current drinking water quality standards, the Delta has never been a reliable source of high quality water. The PEIS/R should clarify this fact.

Ecosystem restoration issues and concerns are correctly identified. An additional concern is the identification of expansion of fish marking programs at fish hatcheries and production facilities: such programs should be paid for by CALFED ecosystem restoration funding as being of public benefit; water users should not be required to pay for these expanded programs, since they built and currently pay for the operation and maintenance of these facilities.

Water use efficiency issues and concerns seem skewed toward stakeholders who wish to see a regulatory, "command and control" approach. Assurances for implementation of urban and agricultural efficiency programs shows the glaring omission of assurances for efficient environmental water use measures. As stated in the attached comments on the Water Use Efficiency Technical Appendix, attempts by CALFED to mandate application of CVPIA requirements to all water users statewide is inappropriate.

Water transfers issues and concerns seem skewed toward stakeholders who wish to see a more regulatory approach. Water user concerns are not adequately identified. They include such issues as enabling transfers, sales and exchanges to proceed smoothly and on short notice; ensuring that any review process does not disable a willing buyer-willing seller sale, transfer or exchange; and numerous other issues having to do with potential increase of bureaucratic oversight of transfers over and above what is already in place.

Variable program elements should be altered so that storage becomes an element of the CALFED common programs, and is thereby evaluated as part of each alternative. Storage proposals should directly address the effect of such storage options on water yield, power consumption versus generation, flood control benefits and opportunities for multiple benefits. According to CALFED, average annual unimpaired runoff from the "two river basins" of the "Sacramento-San Joaquin system" is about 27 maf. Combined "gross reservoir storage" is estimated at 25 maf. CALFED has not adequately defined these systems: which rivers and tributaries, and which reservoirs, are being included to obtain these figures? It appears as though all reservoirs in the system were included, but that all rivers were not. When compared to the watershed figure on page 4, much more runoff (on the order of 50 maf) is actually available in the watershed area. In addition, the reservoirs of the "Sacramento-San Joaquin system" are never operated to "gross capacity." Normal operations provide for pass-through of runoff. Average annual releases should be used for determining storage in the system, or should be compared to average annual unimpaired runoff when evaluating impacts to runoff.

Conveyance issues and concerns do not address the needs of water users regarding the ability to transfer water across the Delta more effectively. If water transfers are to be a major part of the CALFED program, improved conveyance must be included as part of the overall Bay-Delta solution. In addition, the comment that "political stigma" exists from the 1982 peripheral canal debate pre-supposes that such a facility would never be acceptable to the general public. If an isolated conveyance facility proves to be the best alternative for moving water more efficiently and with less environmental impact, CALFED should be able to advocate for its inclusion in the program.

Alternatives Evaluation

According to the document, releases of water are apparently going to occur only when they provide the most benefit for the environment. When will releases occur to provide benefit for other water uses? The document states that "release of water for other uses will generally take place during lower flow periods when the additional flows can provide some indirect benefits to instream flows." Such operating criteria will hamper the ability of water projects to function efficiently and for the benefit of all water uses, including the environment. This concept presumes that the main benefits of storage will accrue to the environment, but that the costs of storage will accrue to the water users, who will have junior status. The PEIS/R should re-evaluate its idealized operating criteria and maximize benefits to all water uses.

CALFED should continue to evaluate the effect of modifying X2 standards on water supply availability. The potential for additional water supplies seems to be underestimated.

Issues to be Resolved

Refining and developing consensus on program elements refers to additional economic analyses pertinent to the Water Use Efficiency program and the Water Transfer policy framework. These analyses should not pre-suppose that efficiency measures must be assessed from a statewide perspective, since the agricultural and urban MOUs, named in the technical appendix as the models for water conservation, rely on locally-derived cost-effectiveness analyses. Likewise, the "marginal cost of water" should not be used as the statewide criterion for determining cost-effectiveness; in reality, the ag and urban MOUs reference local cost-effectiveness to determine what a given water user can afford. Many conservation measures are more expensive than facilities. These same economic criteria apply to water transfers.

Financial package: user funding must be carefully defined to ensure that water users are not assessed for benefits that do not directly accrue to them. The idea that a "broad-based user charge" (sometimes referred to as a "diverter fee") would directly assess all users equally is incorrect. "Widespread user benefits of the common Program elements" must also include environmental users/benefits. If a given amount of water were to be diverted for an environmentally beneficial purpose, what entity would be expected to pay the diversion fee? CALFED is correct in noting that past damage to the ecosystem cannot be assessed wholly to the diverting water users, and that damage has come from many sources. If such past damage were to be assessed, the people of California would need to be the source of the funds, as the "direct beneficiaries of water development." CALFED is also correct in noting that the water users feel that they have already paid "sufficient amounts" in both money and water, to offset past actions. In many cases, including the water committed to achieve the Bay-Delta Accord, water users were not compensated in any way.

Crediting: will water taken or given up in the past be credited to the water users? This could help to offset the costs of new benefits.

PROGRAM GOALS AND OBJECTIVES TECHNICAL APPENDIX

From the beginning, the Agency has been troubled with the CALFED program goal to "reduce the mismatch between Bay-Delta water supplies and current and projected beneficial uses dependent on the Bay-Delta system". Some stakeholders assert that as long as CALFED provides less water, but more often, then its water supply reliability test has been met. The phrasing of this CALFED program goal is so weak that one could conclude that water conservation and transfers alone are sufficient to meet stakeholders' needs. The water supply reliability problem is only discussed in the context of lost operational flexibility and levee instability.

From early on in the process, the Agency and other water user stakeholders have made it clear that what is needed is increased water supplies. As the CALFED Program moves forward, it is becoming clear that little or no new water yield will be developed for water users (even though new surface storage is being proposed). Over the implementation period, as California's population increases to 50 million people, little attention is being paid to where the water will come from to take care of increasing urban water needs. The Agency is concerned that scant new water yield is proposed for development, which makes it appear that the CALFED Program assumes that increased urban water needs will be met by reallocations from agriculture. This would mean that, in the future, agriculture will indeed receive "less water, more often."

The Agency feels that the PEIS/R should clearly identify how much yield (as opposed to storage) is proposed to be added to the state's water supply system by new surface and groundwater storage, and how much of this new yield is destined for ecosystem uses. In this manner, the programmatic availability of yield will be clearly laid out for all stakeholders to see and plan for.

WATER USE EFFICIENCY TECHNICAL APPENDIX

Section 1

This section discusses the potential for water conservation and recycling to "generate a water supply available to meet other needs, including ecosystem needs." It is unclear how water conservation and recycling would do so, since the water conserved or recycled must first have been exported for non-ecosystem purposes. By law, conserved water remains "owned" by the conserver, who may use the water for further beneficial uses. There is a built-in assumption in the PEIS/R that real water savings generated by local conservation efforts can be reallocated to Bay-Delta ecosystem uses. The PEIS/R should make it clear that CALFED does not intend to reallocate conserved water to ecosystem uses.

When the water conservation potential estimated in the PEIS/R is compared with the equivalent numbers in draft Bulletin 160-98, it is apparent that CALFED assumes a higher level of conservation. Since Bulletin 160-98 is the state's official water planning document, the rationale for CALFED not using its water conservation estimates is puzzling. The explanation given is that DWR's and CALFED's estimates were "prepared for different planning purposes and they examine different scenarios of the future." No further explanation is given of what the different planning purposes are, or of what the different scenarios of the future are. Rather than make up its own future scenarios, the PEIS/R, to the maximum extent possible, should harmonize with the state's official water planning document. Also, the draft PEIS/R itself references CALFED's use of Bulletin 160-98 for its "existing conditions" and "no action alternative" values for water

conservation. Thus the Water Use Efficiency Technical Appendix does not mesh with other PEIS/R documents. This should be corrected. If funding will be available to assist in the institution of water use efficiency measures, then the savings attributed to those measures could correctly be attributed to the CALFED Program. Otherwise, the "no action" alternative should coincide closely with Bulletin 160-98.

Examples should be given of which state water contractors have "conservation" clauses in their contracts with DWR.

All California Urban Water Agencies members and the majority of their subagencies are signatories to the MOU, and CUWA claims to represent almost 90% of the urban water use in the state. How then can only "less than half" of the population be served by members of the CUWCC?

Bulletin 160-98 forecasts that even with increased conservation, California still won't have enough water for urban and ag use, much less for environmental purposes. Why does CALFED focus on water conservation as "generating" water for environmental use?

There are large differences between Bulletin 160-98, the state's water planning document, and the CALFED draft PEIS/R. "Different planning purposes" should be defined, as should "different scenarios of the future." CALFED seems to have "cherry picked" Bulletin 160-98 for numbers it wanted, and yet ignored other data contained within that document.

The "no-action" alternative identifies "significantly more water use efficiency potential" than Bulletin 160-98, and is supposedly based on "increases in funding and regulatory support." "Regulatory support" sounds like a contradiction in terms. As mentioned above, unless CALFED will provide funding to institute water use efficiency measures and thereby gain water savings, the "no-action" alternative should not contain water savings estimates over and above Bulletin 160-98.

Table 1.1 displays 1.48 maf per year in net water savings from the urban sector under the "no-action" alternative, with an additional 740 taf per year as a result of the CALFED Program. Table 1.2 shows the Tulare Lake Region (UR3) as having an incremental applied water reduction of 400-600 taf. Table 1.3 shows Tulare Lake Region real water savings as 35-45 taf. All of these numbers apparently have nothing to do with the data shown in Bulletin 160-98, and the hydrologic conditions upon which that data is based.

Also, the Colorado River region is shown as "not applicable" under CALFED. If less water is allocated to California under the Dept of Interior 4.4 Plan, there will be impacts on State Water Project contractors, and this will have an impact on the Bay-Delta system.

Section 2

The definition given for "efficient water use" is specious. The definition used in Section 10613 of the California Water Code (Urban Water Management Planning Act) should be used: " 'Efficient use' means those management measures that result in the most effective use of water so as to prevent its waste or unreasonable use or unreasonable method of use."

Storage and Conveyance: in the course of CALFED's "public participation" process, numerous water suppliers expressed concern about the baseline of "cost-effectiveness" for determining

which conservation measures will be implemented, and at what levels. They indicated that public funding must be part of CALFED's program to support and assist water suppliers. They did not intend that support be the "built-in" costs of storage and conveyance, which would thereby *force* "cost effectiveness."

Financing: to suggest that water users will pay for the ecosystem water in their unit costs suggests a predetermination by CALFED on the outcome of its EIR process. This also appears to try to *force* "cost effectiveness."

Define and quantify the term "strong," used repeatedly by CALFED staff during formulation of the water use efficiency program. What will constitute a "strong enough" program?

Incentive vs. regulatory actions: CALFED claims to be promoting an incentive-based program, and then immediately discusses regulatory actions as necessary to provide assurances. CALFED cannot have it both ways!

All bullet points on pages 2-3 and 2-4 should not be applied to regions and agencies where there are little or no real water savings. The savings estimates utilized in draft Bulletin 160-98 were fairly realistic; yet they not used for the CALFED analysis.

The "urban objectives" relate the many strengths and benefits of the California Urban Water Conservation Council. Immediately following is a description of the "need for assurances" which says that the approach to water use efficiency must be made "more credible." Does this mean that CALFED feels the CUWCC has not been successful and is not credible? In addition, the statement is made that "many agencies are implementing BMPs at appropriate levels, but many others are not." Since the urban MOU is voluntary and since BMP implementation is based on local cost-effectiveness analysis, CALFED's should define what it deems "appropriate."

The "agricultural objectives" seem to presuppose that agriculture is not efficient. The sentence "As planning for possible improvements in water conveyance and storage moves forward, it will be important for stakeholders and taxpayers to be assured that existing water supplies are being used as efficiently as possible at all levels" indicates that California agriculture is not being credited for its many advancements in water use efficiency. Why was a similar sentence concerning stakeholder and taxpayer assurances not included for the urban sector?

General Assurances

This section also purports that high levels of efficiency "should be met by every water supplier in California, regardless of the supplier's desire to receive CALFED benefits." This statement is inconsistent with the geographic solution area of the CALFED Program, as it expands the water use efficiency common program beyond the CALFED solution area to include the entire state of California. It is also in conflict with the CALFED solution principle of "no significant redirected impacts." This section is not "consistent with California public policy including constitutional provisions prohibiting waste and unreasonable use." Such policy already exists and all California water suppliers are subject to that policy, as administered by the State Water Resources Control Board.

It is inappropriate for CALFED to suggest that the CALFED Program should create significant obligations for water users who either will not or cannot access CALFED benefits (because they are not located in the solution area). This sort of language should be removed from the PEIS/R.

Assurances for "good water recycling analysis and planning," etc. What are these assurances? Assurances should be detailed in the next draft PEIS/R.

The linkage between water use efficiency and storage and conveyance is troubling. In this section a linkage is made between the cost of "expensive" new storage and conveyance projects and the "marginal cost of new supplies." The conclusion is: "if new supplies are expensive, then more efficiency measures will be cost-effective." This train of thought suggests that one of CALFED's goals is to make new water development so expensive that users will substitute water conservation. Also, the "marginal cost of new supplies" is not the appropriate measure of cost-effectiveness. Both the urban and AB 3616 MOUs use local cost-effectiveness as their measure of appropriateness. The PEIS/R should remove references to marginal cost of new supplies as being the appropriate measure of conservation cost-effectiveness.

A linkage between the agricultural water user efficiency program and ecosystem quality is made, whereby increased efficiency will reduce fish entrainment impacts due to reduced diversions. No mention is made of the fact that CALFED also wants to screen diversions to the maximum extent possible. Screening should be given priority for in-basin water use in areas north of the Delta and in the Delta itself. The PEIS/R should justify why reducing diversions to export areas via water use efficiency in order to reduce fish entrainment should take precedence over screening in north of Delta and in-Delta areas. In south of Delta export areas, diversions are driven by operational requirements for storage reservoirs, primarily San Luis Reservoir. Generally, operation of San Luis Reservoir is independent of water use efficiency measures. The PEIS/R should justify how operation of south of Delta storage reservoirs will be impacted by implementation of water use efficiency measures.

An assurance for water use efficiency involves CALFED's proposal to prevent a water supplier from participating (as either a buyer or seller) in a water transfer that requires approval by any CALFED agency or use of facilities operated by any CALFED agency unless the water supplier has implemented the full range of cost-effective conservation measures. Absolutely no rationale is given for this assurance mechanism. Considering that water transfers are a significant element of CALFED's common programs, this assurance seems to be inconsistent with CALFED's goals for water transfers. Also, no analysis of how this assurance could actually interfere with water transfer market signals has been done. This water use efficiency assurance should be removed, or else a clear analysis should be included which demonstrates that water transfer markets will be enhanced rather than hampered by this assurance.

In the General Assurances section two practices are included from the U.S. Bureau of Reclamation's agricultural water management criteria, as follows:

Measurement devices - measure, with a device that is rated to have a maximum error of \pm six percent, the volume of water delivered by the district to each customer;

Pricing structure - adopt a water pricing structure for District water users based at least in part on quantity delivered.

These requirements are incompatible with the equivalent EWMPs contained in the *Memorandum of Understanding Regarding Efficient Water Management Practices by Agricultural Water Suppliers in California (AB 3616 MOU)*. The AB 3616 MOU requires these two EWMPs be implemented only after a detailed net benefit analysis demonstrates they are justified for a water supplier.

CALFED purports that it will accept water management plans prepared in accordance with the AB 3616 MOU, yet unilaterally includes criteria which aren't even in the MOU. The inconsistency of this is obvious. CALFED also has established a target date of January 1, 1999 for implementation of agricultural water management plans, or else legislative and regulatory mechanisms will be triggered. Again, this artificial date requirement is inconsistent with the AB 3616 MOU, which allows two years from the date of acceptance into the Agricultural Council to complete a water management plan. CALFED should not establish AB 3616 water management plan requirements in a manner inconsistent with the AB 3616 MOU.

This language about "measurement of water deliveries and water pricing" as administered by the U.S. Bureau of Reclamation attempts to extend regulations promulgated under the Central Valley Project Improvement Act to potentially all water suppliers in California. This is another conflict with the CALFED solution principles, in that it expands the water use efficiency common program beyond the CALFED solution area to include the entire state of California; it would also have significant redirected impacts. Since these two water management measures are included in both the urban and agricultural MOUs (as EWMPs and BMPs), it appears that CALFED is attempting to alter the terms of the MOUs without the acceptance of the signatories.

Attempts to tie the ability to transfer water, whether as a transferring agency or as a receiving agency, to "minimum standards" of water use efficiency will need precise definitions, as mentioned above, of the "minimum standards." As stated above, water measurement and pricing criteria are included in both the urban and agricultural MOUs.

Additional Assurances

This section should be included under General Assurances. All assurances that CALFED will require should be set out in one section and in simple terms. One assurance listed under this section is the notion that "widespread demonstration of efficient use by local water suppliers could be a prerequisite to CALFED implementation of other Program actions for water supply reliability." This statement ignores the linkages and interrelationships between the various CALFED program goals. Also, the very mention of "additional" assurances which "could" be prerequisites to CALFED actions sends the message that CALFED will decide later how its water user efficiency common program will be implemented. In other words, it is a moving target. Statements such as this should be removed from the technical appendix.

Wholesaler-retailer relationships are individual contractual agreements. Wholesale agencies may have contractual obligations to retailers via their agency formation acts, while they may not have responsibilities under those acts. Any attempts by CALFED to legislate changes to wholesale agency formation acts would generate certain controversy and political resistance.

"Linked implementation" and "widespread demonstration of efficient use" need to be precisely defined. How will a local water supplier achieve "widespread efficient use?"

Agricultural Approach

Acreage irrigated by Bay-Delta diversions is approximately 4.5 million acres (not, as implied, 9.1 million acres, which is total irrigated acreage *in California*.)

On page 2-12 the draft PEIS/R, language describing cost-effectiveness perspectives broadens the perspective "to include environmental and water quality benefits as well as water supply benefits." This alters the entire premise of locally-determined cost-effectiveness found in both the urban and agricultural MOUs. This appears to attempt to alter the terms in the cost-effectiveness analysis equations to cause just about any efficiency measure to become cost-effective. If CALFED intends for more measures to be cost-effective, it must have funding in place to disburse to agencies statewide that could find themselves implementing measures that are not cost-effective locally, but are cost-effective from a "statewide perspective."

Urban Approach

No credit is given for the savings achieved by changes in the state plumbing and building codes. No credit is given for savings achieved by the model landscape ordinance act (AB3030). CALFED should look at urban water use figures in draft Bulletin 160-98. Water use has decreased overall, such that per capita water use is still at levels seen in the late 1970s, while growth has continued to occur.

The Agency takes serious exception to the statement that "the rate and extent of implementation by signatory agencies is currently far below the potential." What defines this "potential?" Signatories to the urban MOU are required to implement only those BMPs that are cost-effective from the local perspective; that is what defines the "potential."

"Many agencies have yet to sign the MOU or develop strong conservation programs." Are these agencies in the CALFED solution area? Are they located in hydrologic regions that impact the Bay-Delta system? Are their supplies derived from tributaries to the Bay-Delta system? Careful consideration must be taken when making blanket statements that "higher levels of conservation need to be achieved."

"All urban water suppliers should implement conservation programs that comply with the terms of the urban MOU." CALFED is attempting to dictate policy beyond the scope of the CALFED solution area. Not all water suppliers impact the Bay-Delta system. Unless CALFED is prepared to legislate mandatory compliance with the terms of the urban MOU, this statement should be revised.

CALFED recommends that the CUWCC adopt a process for endorsement or certification of water supplier compliance with the terms of the urban MOU. On April 8, 1998, the CUWCC Plenary voted to inform CALFED that the CUWCC would accept the role as the entity performing BMP certification as part of an overall CALFED Bay-Delta Program solution, contingent upon its approval of a final certification process and partial funding support from CALFED. Stakeholder groups are working on proposals for a process for such endorsement and certification; one such proposal is attached to these comments.

The Urban Water Management Planning Act does not currently contain language that allows DWR to "formalize" a "certification process" for UWMPs. DWR is working with water

agencies from around the state to derive a method for evaluating whether plans meet the terms of the Act. Efforts to formalize a certification process will require legislation and amendment of the Act.

Funding assistance should be in place before the terms of the final CALFED Water Use Efficiency Common Program are instituted.

Demonstrating "appropriate planning and implementation" in order to "participate in a water transfer that requires approval by a CALFED agency or use of facilities operated by any CALFED agency" is a water-based sanction. Since the urban MOU allows agencies to implement only those BMPs that are locally cost-effective for their service areas, such an all-inclusive requirement may prove to be unimplementable, and therefore violates a basic CALFED solution principle. CALFED is actively involved in activity to foster and enable water transfers and exchanges. The requirement that any two districts, whether large or small, agricultural or urban, state or federal, must BOTH have certified conservation programs, will seriously impact this effort. A certain amount of "lead time" will be necessary for many agencies in the CALFED solution area to design, implement and come into compliance with conservation programs. Will these agencies be ineligible to participate in any transfers during this period?

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It is inappropriate to name one specific stakeholder process in the draft programmatic PEIS/R. This specific reference should be removed from the final document. Reference to the content of this specific stakeholder process should also be removed. Other stakeholder groups are working on proposals for a process for such endorsement and certification; one such proposal is attached to these comments.

CALFED recommends a fee structure for agencies not in compliance. Such a structure is not enforceable by the urban Council under the terms of the MOU. While the Council has endorsed taking on the responsibility for reviewing compliance reports and making recommendations of certification, it will not be responsible for sanction enforcement. Neither will it bring waste and unreasonable use charges to the SWRCB. In addition, from a public policy standpoint it would be unwise to have an agency such as the SWRCB depend upon penalty fees for part of its funding. This could result in conflicts of interest.

Approach to Effective Use of Diverted Environmental Water: this section is inadequate. If CALFED creates a new ecosystem entity to manage water supplies for environmental uses, then a process must be developed whereby stakeholders are assured that environmental water is being used appropriately and efficiently. The process should contain efficiency measures similar to the BMPs and EWMPs, and should require planning and reporting similar to the urban and agricultural sectors. At the last and final meeting of the CALFED Water Use Efficiency workgroup in March 1997, staff from the California Department of Fish and Game and other

personnel had begun work on this program element. Why is their work not included in the draft PEIS/R? Environmental efficiency measures should be detailed in the next draft PEIS/R.

Water Recycling Approach: Why is secondary treated water not included in the draft PEIS/R as a potential water supply? Many Central Valley communities send secondary treated water out of wastewater plants for use as irrigation water for non-food crops. This water augments the overall water supply in some regions, and is also available for subsequent percolation and groundwater recharge.

The CUWCC has carefully considered its position on a "Recycling BMP," most recently during the 1997 BMP Revisions process. The main reason that a recycling BMP was not instituted is that most urban water suppliers do not provide wastewater and recycled water services: these are separate functions of other local agencies. Signatories to the urban MOU have agreed to work with wastewater agencies in their service areas to improve and augment the use of recycled water in California. A new BMP would not assist "planning and implementation" of recycling, due to the high capital costs of recycling projects.

The Central Valley, with its own identified water quality areas of concern, does not want wastewater brought in from coastal urban areas, as proposed by the Central California Regional Water Reclamation and Reuse Study. Central Valley areas have resisted such programs.

Section 3

The Technical Appendix concedes that overall environmental water use (including instream flows) is roughly equivalent to agriculture's use of applied water (DWR draft Bulletin 160-98 indicates that it is more.) Yet CALFED does not intend to apply water efficiency measures or assurances to environmental water use, with the exception of diverted environmental water (which makes up 3% of the state's total applied water). As a result, no equity or balance exists with respect to water use efficiency measures or assurances for such. All three of the state's major water uses should be held to high standards of use. Failure to include efficiency measures and assurances for the state's largest water user is a major weakness of this document that must be corrected.

Figure 3.1 is misleading, and should be re-drafted to show the information in the caption: "overall environmental water use (including instream flows) is equivalent to agriculture."

Error on page 3-2: Zone AG5 of the Tulare Lake Region: the term "Kern Valley" refers to the Kern River valley upstream of and including Isabella Lake. The correct term should be "southern San Joaquin Valley floor."

Urban Zones: "other regions may not truly save water but can reduce the cost of treatment and distribution and have secondary benefits to the environment." Will the measures needed to provide these "secondary benefits" be cost-effective from the local perspective of these "other regions?"

Section 4

The Water Use Efficiency Technical Appendix introduces the concept of numeric targets for agricultural and urban water use efficiency. Detailed regional estimates for water savings, both applied and real, are presented, with the concept that achieving these levels of water use

efficiency will become prerequisites to accessing water supply benefits of the CALFED Program. It is critical that CALFED clarify that the proposed water savings are not intended as targets or performance levels for the following reasons:

- Despite the best efforts in implementing efficiency practices at the water supplier level, delivery entities have no real control over usage rates, which are driven by market forces rather than water suppliers;
- CALFED's estimates of potential water savings are premised on implementation of technologies not yet developed;
- The potential water savings presented in the PEIS/R assume full implementation of urban BMPs and agricultural EWMPs, even though the respective urban and ag MOUs use cost-effectiveness to determine implementation levels;
- Long-term efficiency improvements may result in degradation of agricultural and urban soils due to salt accumulation. Thus these improvements may not be sustainable in the long-term.

The Agency especially questions the decision to compute future water savings potential assuming widespread implementation of technologies not yet developed. As an example, future agricultural water savings assume irrigation hardware with distribution uniformities of 90 percent will become available, that these will be cost-effective to use, and that they will be widely installed throughout California agriculture. The Agency considers it inappropriate for CALFED to base its estimates of future water savings on technologies which have not even been developed.

Another anomaly is the fact that CALFED assumes that manufacturers will improve their hardware designs to achieve higher distribution uniformities without any assistance from CALFED. Yet CALFED usurps the future efforts by manufacturers into its "additional CALFED increment." If manufacturing improvements occur, they will occur without regard to CALFED, and hence would more appropriately be included in the "no action increment." Doing so would reduce the "additional CALFED increment" to a very small number. CALFED should justify in its PEIS/R why future manufacturing improvements are credited to the CALFED Program. Also, in light of the fact that the "additional CALFED increment" is so small (once manufacturing improvements are moved to the "no action increment"), CALFED should also reexamine what appropriate role its water use efficiency common program will play in the overall solution package.

The Water Use Efficiency document creates the expectation that CALFED considers these extremely aggressive levels of water conservation (both no-action and CALFED increment) as practical and affordable, without fully disclosing the methodology used to estimate the savings estimates. Also, the document does not analyze the potential impacts to groundwater storage or soil salt balance which could arise due to increased levels of efficiency. The document also refers to its objective to "provide assurances that a high floor level of conservation implementation will occur." Considering the aggressive levels of water conservation contained therein, just what is the "floor" level of conservation implementation that CALFED desires to

assure? The PEIS/R should lay out what the current "floor" level of conservation implementation is by region, then add to it what aggressive levels of implementation CALFED feels is justified, along with the rationale for why these additional levels are attainable, and at what cost.

Estimates are made of applied water reductions for multiple benefits, including water quality, flow timing and the ecosystem. The linkage between applied water reductions and these multiple benefits is not intuitive. For instance, how do applied water reductions achieve flow timing benefits? Reservoir operations are not driven by monthly demands, rather they are driven by seasonal or annual demands. The notion that applied water reductions can achieve flow timing or other ecosystem benefits presupposes that the conserved water will be available for ecosystem uses (with no mention of compensation for such) and that reservoir operations will be modified to produce these ecosystem benefits on a priority basis. Also, since most of the state's major storage reservoirs have flood control as one of their purposes, CALFED needs to consider how these efficiency-induced ecosystem benefits will operate in conjunction with flood control limitations on storage. As an example, does CALFED assume that flood control releases would first spill water not conserved by efficiency measures and prioritize the "multiple benefits" water to be the last spilled?

The estimations of applied water reductions for multiple benefits appear to be based on total applied water (both ag and urban, surface and groundwater) for a region, rather than the applied water accruing from Delta sources. This error grossly overestimates the total applied water reductions for multiple benefits, and needs to be corrected.

Section 5

Urban Water Conservation

As stated in the summary of findings, not all reductions in urban per-capita use result in real water savings. However, "benefits to water quality, the ecosystem, and energy needed for water treatment...and home water heating" are identified as desirable. However, these benefits may not be cost-effective from the local perspective.

The summary goes on to say that "costs associated with implementing conservation measures to achieve these loss reductions will vary case-by-case....customer cost to reduce water use ranges from \$300 to \$600 per acre-foot annually. Water supplier costs can add \$2 to \$9 per person per year to the cost of conservation." The attempt to define an average cost across all hydrologic regions results in spurious numbers. The Tulare Lake HR (Zone UR3) would not have such high customer costs, because the local costs for water are low in comparison to some other hydrologic regions. These unrealistic average costs, combined with a lack of real water savings, would make most demand management measures unimplementable in Zone UR3 due to their lack of local cost-effectiveness.

Conservation of water in areas where water returns to the hydrologic system in a usable form should absolutely be credited to water supply benefits, especially in Central Valley closed basin hydrologic regions. Water does not leave these areas and go to a salt sink; most water is reused and ultimately recharged.

The Agency takes exception to some of the reference materials utilized in preparing this section of the PEIS/R. No references from the California Urban Water Conservation Council, American

Water Works Association or California Urban Water Agencies are cited, when all of these entities are well-known resources in water conservation. Some of the resources cited are of highly questionable value as reference materials on water use efficiency.

The no action alternative includes implementation of urban BMPs "to levels targeted in the existing urban MOU." While schedules and target levels are in place for some BMPs, implementation per the MOU is predicated upon local cost-effectiveness. Therefore, not all BMPs will be implemented to the maximum target levels. In addition, savings assumptions are not currently available for all BMPs, thus projected conservation levels under the No Action alternative are spurious.

The Agency's comments to DWR on draft Bulletin 160-98 expressed concern that all BMPs were assumed to be fully implemented statewide. The urban MOU currently requires that signatories (not all water agencies statewide) implement only those BMPs that are cost-effective from the local perspective. Formulating projected water savings based on a statewide assumption leads to false numbers.

In addition, the No Action alternative assumes 1 million af of real water savings for a variety of sectors, including residential indoor use. Due to aggressive plumbing device retrofit programs in southern California and the Bay Area, there are almost no savings remaining in this sector statewide (Central Valley retrofit programs, while instituted to varying levels, result in no real water saved).

"Opportunities exist to further reduce indoor use to as low as 50 to 60 gpcd." Many urban areas (southern California) are already at or below these levels. In the Central Valley, these levels will not provide real water savings.

It is not acceptable to assume that "additional technologies" will be developed and that water savings can be ascribed to them. This assumption does not reflect careful scientific consideration of facts. Also, if "lifestyle habits" do not need to change, then why will achievement of them require "strong incentive programs and public outreach to gain widespread acceptance"? CALFED seems to be engaging in circular logic.

The assumption that indoor residential rates will reach 50 to 60 gpcd statewide needs to have a time frame attached. Is the target 2020? While the PEIS/R refers to "populated coastal areas," reference should be made to how this statewide average will be achieved.

Landscape Conservation assumptions indicate that the baseline ETo factor is 0.8. How will reductions warmer inland areas be assessed, when it is difficult (if not impossible) in those areas to maintain landscaping investments at less than 1.0 ETo? Also, inland area savings are likely to result only in a reduction in applied water, and will not result in real water savings (pg. 5-15), as most water either flows to downstream users or into groundwater basins.

The assumption that land will be developed and when new houses are built will have "more efficient irrigation systems" and "a larger percentage of lower water using landscape" does not agree with DWR's analysis that urban landscapes use as much or more water than farmland. CALFED should work with DWR to assess the relative impacts of new development on local water use.

CII sector conservation No Action Alternative reduction assumptions of 10 to 20 percent have no basis in actual experience. As signatories to the urban MOU have discovered through actual BMP implementation, CII water savings can be difficult to quantify, especially within specific

subsectors. In addition, the draft PEIS/R should reflect the fact that the urban MOU was amended recently (September 1997) to include the specific CII BMP 9 (CII landscape water use is now included in the large landscape BMP 5). Current estimated water use reduction from BMP 9 is 10 percent below baseline water use over a ten-year period (not the 12 percent commercial and 15 percent industrial quoted for former BMPs 9 and 10 in the draft PEIS/R). "Other factors" in addition to BMP 9 affecting efficient use of water should be quantified. Simply naming these factors and then assuming an additional water use reduction of 10 to 20 percent is not viable.

Enlarging the scope of CII water audits, incentive programs, financial incentives and state and federal programs will all require support funding from CALFED agencies. For some areas of the state, these programs will not be cost-effective; if CALFED wishes them to be implemented, funding must be available up front.

Better data on delivery system losses than that provided by DWR on a regional basis may be obtained from BMP reports submitted to the CUWCC by signatory wholesale and retail agencies. Assumptions of reduced baseline water delivery system losses to 5 percent from the current (amended September 1997) BMP 3 level of 10 percent seem contrived, particularly as population increases will drive construction of additional residential housing and therefore additional treatment and delivery systems.

If CALFED's assumption for "recoverable" water is based on water quality considerations, and that "all losses to usable water bodies can be economically recovered," then large portions of the San Joaquin Valley have recoverable water supplies, particularly due to the use of urban downstream water as sources of groundwater recharge, and/or agricultural irrigation.

Regional Conservation Estimates/UR3 (Tulare Lake Basin)

The assumption that UR3 is "characterized by mainly single family dwellings with large rural landscapes" indicates that CALFED staff has not correctly assessed housing stocks in the region. The rapidly urbanizing areas of the region are typified by single-family housing developments on ¼ to ½ acre spacing, in addition to multi-family residential housing.

The majority of wastewater in the region, at least in the Kern County area, is not "evaporated in large evaporation ponds." See the attached information from the Agency's 1996 Water Supply Report (in preparation), indicating that urban wastewater re-use is on the order of 50,000 af/year. Note that evaporated wastewater is only about 90 af/year. Most urban wastewater is treated to secondary levels and then piped to agricultural users for irrigation on non-food crops, and subsequent groundwater recharge via percolation. A certain amount of wastewater is directly percolated for recharge (3,600 af/year). This information is provided to DWR and is a matter of public record.

Assumed indoor residential use of 50-60 gpcd, assumed CII reductions of 22 percent and assumed distribution system losses of 5 percent by 2020 may not be realistic for UR3. While these are CALFED's statewide water use targets, the Tulare Lake Region, due to its unique hydrologic situation, has not implemented some urban BMPs because they are not cost-effective from the water supplier perspective. These BMPs are up-front cost-intensive, and include meter retrofits, ULFT retrofits, on-site surveys and various financial incentive programs. It will take

some time for UR3 urban water suppliers to achieve these levels, especially since in order to do so they will require up-front funding assistance from CALFED agencies to make these BMPs and other demand measures cost-effective from the statewide perspective.

An assumed regional landscape distribution of 130,000 acres is expected by 2020 in UR3. DWR studies have indicated that urbanization of agricultural land results in greater water use, particularly due to residential landscape demand. This increased demand does not appear to be accounted for in the draft PEIS/R.

There is no readily available database for urban landscape water use for a given region (such information is widespread for agricultural water use). Supplement C, Landscape Conservation Savings, appears to attempt to "back in" urban landscape applied water use and savings numbers for the regional analyses. Attempting to design policy in the form of conservation measures and regional targets based on such analyses is therefore inappropriate. Achieving CALFED's projected landscape demand reductions of 25-30 taf/year, especially if assuming an ETO factor of 0.8, will be difficult if not impossible for UR3. CALFED should focus on gathering urban land use and landscape applied water use data during the initial stages of common program implementation, in order to develop more accurate applied water reduction and real water savings numbers for all geographic regions.

The additive effect of residential indoor, urban landscaping, CII and distribution system demand management measures taken together result in forecast applied water reductions of 65-95 taf/year, or 30 percent, for UR3. CALFED should clarify how the 30 percent irrecoverable loss figure was derived for the Tulare Lake Basin. As related above, these targets will be difficult to achieve. But even more in question is whether these savings are truly "real water." Many urban areas in UR3 are dependent solely on a locally-derived supply, whether from groundwater, local streams, or both. They are located in hydrologically closed basins. All water saved in these areas stays within the local basin. While reducing local demand (even if local demand is increasing), there will be no translatable statewide benefit. It is ironic that one of the benefits named from these presumed "real water savings" is "reduced fishery impacts." While some intramontane fish species exist in watersheds that supply the area, the rivers of the Tulare Lake Region do not provide, and have never provided, habitat for anadromous fish species. To use this "benefit" as an indicator for demand reductions in UR3 is inappropriate.

While the Colorado River region does not generate Delta water quality or environmental benefits, its water supply benefits (or the lack thereof) could have serious implications for water demand from the Delta. Depending on the final USBR plan for California's Colorado River entitlement, this could impact total applied water reduction shown in Table 5.5.

Costs of efficiency improvements will be borne by water suppliers and customers. CALFED indicates that total applied water reductions in Table 5.5 are for "programmatic impact analysis and should not be used for any planning efforts." The draft PEIS/R then goes on to say that cost-effectiveness analysis and who will pay will be locally determined "during planning and implementation." Do the total applied reduction estimates play a role in local cost-effectiveness analysis? There is no mention of the varying cost of water around the state and how that affects cost-effectiveness analysis. CALFED should attempt to account for varying water costs, and which efficiency improvements may not be sensible for areas with low or no real water savings.

As mentioned above, CALFED should clarify how the 30 percent irrecoverable loss figure was derived for the Tulare Lake Basin.

The Tulare Lake Basin region has implemented "less conservation" due to the fact that many measures are not cost-effective for the region. Even at an assumed 30 percent real water savings, several BMPs will remain non-cost-effective. Table 5.9 indicates that the cost per acre-foot of applied water reduced is \$300-500. This is orders of magnitude higher than the actual marginal cost of water in the region. Table 5.10 displays the costs to regional water suppliers associated with improving water supplier conservation programs. Both Table 5.9 and 5.10 are arguments that show how cost-effectiveness will remove from consideration the implementation of some BMPs in this region.

In addition, unlike some coastal regions, there is no equivalency in water sources for urban areas within the Tulare Lake Basin region. The City of Fresno, City of Bakersfield and Kern County Water Agency Improvement District No. 4, along with many small municipalities and mutual water companies, have a wide variety of water sources at a variety of costs. It is common for a UR3 urban area to have its own locally-derived water supply. Applying averaged cost per acre-foot for achieving conservation improvements to the region does not reflect the locally-derived differences in cost-effectiveness that would result.

Section 6

Water Recycling: While it is appropriate the Central Valley regions were not included in the analysis, urban areas in the San Joaquin Valley (specifically UR3) should be given credit for wastewater re-use programs. See the information attached to these comments from the Agency's 1996 Water Supply Report (in preparation), indicating that Kern County urban wastewater re-use is on the order of 50,000 af/year. This re-use is not simply from wastewater being recharged directly from ponds: water is treated to the secondary level and then piped to local farms for use in irrigating non-food crops; water is subsequently percolated and recharged in a variety of places in the groundwater basin.

Section 7

Water Transfer Element and Supplement A:

The CALFED Program should focus on water transfers that involve transportation across (or through) the Delta system. CALFED should more clearly define the term "transfers." Most of the discussion in the document appears to define "transfers" as water sales involving deliveries across the Delta.

The Water Transfers Clearinghouse concept should be voluntary and non-regulatory. Any additional regulatory requirements would have the potential to seriously hamper or even halt a transfer, thereby harming local economies. Enough regulatory oversight and processes exist in the current system to ensure that transfers (water sales) take place after environmental and third-party impacts have been satisfactorily addressed.

Conveyance across the Delta: while the Supplement correctly indicates that new conveyance and storage "would increase the capacity and reliability for transferring water," the issues as described do not adequately address the needs of water users regarding the ability to transfer water across the Delta more effectively. The only major issues identified are "avoid or mitigate for third party impacts associated with transfers," and "the relationship between water transfers

and local groundwater resources.” If water transfers are to be a major part of the CALFED program, improved conveyance must be included as part of the overall Bay-Delta solution. If an isolated conveyance facility proves to be the best alternative for moving water more efficiently and with less environmental impact, CALFED should be able to advocate for its inclusion in the program.

WATER QUALITY TECHNICAL APPENDIX

The draft PEIS/R assumes that up to 45,000 acres of land in the San Joaquin Valley will be retired as part of the Water Quality Program. No justification is given for why this land must be retired to achieve CALFED’s water quality objectives, and no options for meeting its objectives without land retirement are given. The PEIS/R should clearly analyze whether there are viable alternatives which would achieve CALFED’s water quality goals without taking land out of production.

Those programs that provide the greatest water quality benefit to the greatest area should be implemented ahead of other actions that provide lesser benefit. The recommendations presented in the description of water quality actions detail measures that will provide water quality benefits to many locations within the area impacted by the CALFED program. These actions were developed as part of Phase I of the Water Quality Program. It is understood that the prioritizing of these actions is currently underway as part of Phase II of the Program. Selection of which specific programs are implemented first should be based on the potential benefit of the action. CALFED needs to present the methodology for prioritization as part of its Phase II activity.

CALFED should develop a mechanism for ensuring that activities undertaken as part of the CALFED Water Quality Program are not more appropriately funded through other entities or currently existing programs. These programs should not alleviate the legal requirement of specific public or private entities to fund programs designed to address these specific water quality issues. CALFED monies should be directed at funding programs which are outside the jurisdiction and/or responsibility of existing programs and or entities (e.g., should CALFED monies be used to address deficiencies in the ability of regulatory agencies to enforce current standards?).

It is essential that objective standards be developed for evaluating the success of programs as they are implemented. The “indicators of success” presented in each of the recommended actions is a start towards this goal; however, prior to implementation of a specific CALFED Water Quality Program action, a detailed benchmark for measuring the success should be required. This would be used for measuring the success of the program and for making funding decisions. Without these types of objective parameters for program evaluation, many non-productive and costly programs could be in place for a long time.

Stakeholders should be given an opportunity to provide input on the selection of the “CALFED Bromide Expert Panel” and the tasks assigned to that panel. CALFED is currently in the process of selecting a panel of experts to provide input to the CALFED Policy Group on the potential human health and cost consequences of selecting a Preferred Alternative, with respect to bromide in drinking water supplies taken from the Delta. The composition of this panel is being discussed with some members of the Water Quality Technical Group. It is unclear at this time as

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to whether or not there will be an opportunity for broader input on the panel and its tasks from other stakeholders. Recognizing the short time frame that will be given this panel to provide input on a preferred alternative, we understand the need for a quick panel selection. However, we would like the opportunity to provide comment on the proposed panel members and its assigned tasks, prior to final selection.

The Phase II Interim Report presumes that the Delta was at one time a reliable source of high quality water that has since been degraded. In terms of current drinking water quality standards, the Delta has never been a reliable source of high quality water. The PEIS/R should clarify this fact.