EXHIBIT-Tahey 78

Public Hearing (3/20/13)
Bay-Delta Plan SED
Deadline: 3/29/13 by 12 noon

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RESTORE HETCH HETCHY
YOSEMITE NATIONAL PARK

Comments of Restore Hetch Hetchy on the State Water Resources Control Board's Lower San Joaquin River Draft Substitute Environmental Document (SED):

POTENTIAL CHANGES TO THE WATER QUALITY CONTROL PLAN FOR THE SAN FRANCISCO BAY-SACRAMENTO/SAN JOAQUIN DELTA ESTUARY: SAN JOAQUIN RIVER FLOWS AND SOUTHERN DELTA WATER QUALITY

March 29, 2013

Summary

Restore Hetch Hetchy supports the State Water Resources Control Board (State Board) in its effort to amend the 2006 Water Quality Control Plan and to provide flows of suitable magnitude and timing on tributaries to the lower San Joaquin River and into the Bay-Delta. We take no specific position on the alternatives proposed. We do recommend, however, that the State Board extend the range of beneficial uses of water beyond those it has heretofore considered in the SED to include values associated with Yosemite National Park – in particular the opportunity to reclaim nine miles of the Tuolumne River by restoring Hetch Hetchy Valley (shown below).

Restore Hetch Hetchy urges the State Board, as it pursues adoption and implementation of these enhanced flows, to consider its broad and specific statutory responsibilities to balance water needs for all beneficial uses. These include not only the needs of downstream fisheries that are the subject of this process and the consumptive use objectives of agricultural and urban water districts, but also the water supply that will be necessary to accommodate the restoration of Hetch Hetchy Valley in Yosemite National Park.

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MEMORANDUM

To: Environmental Defense*

From: Stuart L. Somach**

Subject: Hetch Hetchy Water and Power Issues

Date: July, 2004

INTRODUCTION

I have reviewed materials available to me with respect to various questions that you have posed concerning the general water rights and entitlements of the City and County of San Francisco ("CCSF"). This review has been exclusive to CCSF's Tuolumne River water rights as they may derive from California law and the Raker Act.[1] It is my understanding that this information will be utilized by Environmental Defense, and perhaps others, in an analysis of water supply options and alternatives that CCSF may have available to it in lieu of its current storage of water in Hetch Hetchy Valley. As you are aware, I am a proponent of surface water storage as an essential element of what is needed to resolve California's water supply shortages and, in general, consider Hetch Hetchy a component in that overall water storage/supply picture. In this context, other than the legal opinions provided for herein, I offer no opinion with respect to options or alternatives to the storage of water in Hetch Hetchy Valley.

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* As you are aware, Somach, Simmons & Dunn represents the Turlock Irrigation District. At its request, I have provided this identical opinion to it pursuant to our attorney-client relationship.

** I have been assisted in the preparation of this Memorandum by Elizabeth W. Johnson, of the firm Wilkins, Underwood, Omstead & Johnson; and Nicholas A. Jacobs, an associate attorney with Somach, Simmons & Dunn.

1 Pub. L. No. 63-41 (Dec. 19, 1913) 38 Stats. 242.

QUESTIONS PRESENTED

1. Assuming that reasonable, feasible alternatives to utilizing existing or expanded Raker Act water supply facilities in the Hetch Hetchy Valley are available to CCSF, what legal considerations may require or encourage CCSF to consider such alternatives?

2. What legal factors affect the role Modesto Irrigation District and Turlock Irrigation District will have in CCSF's consideration of alternatives?

3. What legal factors affect the role of other agencies in CCSF's consideration of alternatives?

4. What legal requirements regarding hydroelectric power production may affect CCSF's decisions with respect to expansion and/or continued use of the facilities in the Hetch Hetchy Valley authorized by the Raker Act?

BRIEF ANSWERS

1. The California Water Plan assumes that water conservation and recycling, additional surface water storage in the greater Bay Area, desalinization, and reconfigured conveyance from the lower Tuolumne River and the San Francisco Bay-Delta may make water available to serve the region.[2] Assuming such alternatives are practical and available in the foreseeable future, and based on our research of this matter, the following legal considerations may require CCSF to consider diversions of Tuolumne River water elsewhere than from Hetch Hetchy Valley:

- CCSF has perfected water rights to about 300 million gallons per day ("mgd") from the Tuolumne River. Although CCSF has historically claimed a right as large as 400 mgd, these claims are undermined by the due diligence requirements of California water law, as well as by the effect of various terms or conditions in the Raker Act.

- CCSF's right to Tuolumne River water is a relative right. In this context, and by way of example, the Raker Act is very protective of the rights of the Turlock Irrigation District ("TID") and Modesto Irrigation District ("MID"). (TID and MID are referred to collectively as the "Districts.") The Raker Act protections, however, are limited to the Districts and may not be exercised by others. Further, California law prohibits exercise of CCSF's rights, existing or expanded, in a manner that injures the Districts or other senior water right holders.

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2 California Water Plan, DWR Bulletin 160-04 (Draft), Vol. 3, Ch. 3.

- The Raker Act required CCSF to fully develop its other water resources before taking additional water from Hetch Hetchy. Today this may include greater use of recycled water and other alternative local sources.

2. The Districts hold water rights that are senior to CCSF's. Further, CCSF's rights and obligations with respect to "storage" in New Don Pedro Reservoir are governed by its agreement with the Districts. Without that agreement and its integration into various water rights and the Districts' Federal Energy Regulatory Commission ("FERC") licenses, CCSF would have no rights in New Don Pedro Reservoir. The Raker Act protections identified above give the Districts additional power to restrict CCSF's expansion of its Hetch Hetchy facilities.

3. The discretionary expansion of CCSF's system, or changes in the current diversion levels using existing facilities, would require an analysis of alternatives pursuant to the National Environmental Policy Act ("NEPA") and the California Environmental Quality Act ("CEQA"). It would, however, also require an analysis of the appropriateness of an upstream diversion within Yosemite National Park in light of the California public trust doctrine and of California's constitutional mandate to maximize the reasonable, beneficial use of water. Various agencies and the courts may assert oversight under these doctrines and environmental protection statutes. Public trust interests and the constitutional obligation to maximize the reasonable, beneficial use of California water are presumably constant limitations on CCSF's use of Tuolumne River water, whether existing or expanded.

4. The Raker Act explicitly requires CCSF to "develop and use hydroelectric power for the use of its people ...." The Raker Act specifies the following priority of use of Hetch Hetchy power: (i) first, for CCSF's "actual municipal purposes;" (ii) second, to the Districts for "pumping subsurface water for drainage or irrigation" or for "actual municipal purposes;" and (iii) third, for commercial purposes, including sales to CCSF's residents and to "a municipality or a municipal water district or irrigation district" for resale but not to any corporation or individual for resale. CCSF's requirement to produce power for public purposes is a condition of the right-of-way granted by the Raker Act; accordingly, if it desires to continue to utilize those rights-of-way, it must continue to produce such power from facilities remaining in the Park.

DISCUSSION

Water rights are relative rights with their value, at least in part, dependent upon their relative priority with respect to those who also claim rights to divert and use water within the same river or stream system. As a consequence, it is both accurate to state that an individual or entity has a right to X million gallons per day or acre feet annually and also state that the exercise of that right to X million gallons per day or acre feet annually is conditioned on not injuring or impairing a more senior water right holder's ability to first divert and use its entitlement.

In this context, CCSF's right to water is and always has been tied to the rights of TID and MID and, to a lesser degree, others on the Tuolumne River. It is almost impossible to evaluate CCSF's water rights without reference to the water rights of the Districts. As a consequence, those references exist in the discussion that follows. Moreover, as a general comment, and consistent with this concept, modification of points of storage and diversion and storage for the exercise of CCSF's water rights would need to contemplate the rights of others, and modifications that injure or impair the rights of third parties would not be permitted absent compensation or mitigation. Accordingly, following is an analysis of CCSF's Hetch Hetchy water rights, including CCSF's claims regarding the scope of its rights and possible restrictions on those claims.

I.
THE INFRASTRUCTURE OF THE TUOLUMNE RIVER DEVELOPMENT

CCSF holds its water rights pursuant to California law. However, authorization to build its reservoirs on federal land and to obtain federal rights-of-way required an act of Congress, the Raker Act, passed in 1913.[3] Pursuant to this authority, CCSF constructed three storage reservoirs: O'Shaughnessy (capacity 360,400 acre feet) (1923 and enlarged in 1938) and Eleanor (capacity 27,100 acre feet) (1917) in Yosemite National Park; and Cherry Valley (capacity 268,800 acre feet) (1956) in Stanislaus National Forest. These reservoirs are the heart of the CCSF system[4] and are located on or tributary to the Tuolumne River. Releases from these facilities are the only source of water in the Tuolumne River upstream of the South Fork, and CCSF is solely responsible for maintaining flows in this stretch of the river.

According to the SWRCB, based on a firm yield study performed by CCSF, normal operations of the Hetch Hetchy system are as follows:

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[3] 38 Stat. 242.

[4] According to a memorandum by State Water Resources Control Board ("SWRCB") staff (Fuller and Stretars, SWRCB File No. 262.0 (55-07), Statement S-2635 (1982), p. 2), setting forth the findings and conclusions from their research in response to a 1982 complaint of excessive diversions, CCSF's development of the Tuolumne River for water and power upstream of the Oakdale Portal on the Foothill Tunnel consists of the following facilities:

Hetch Hetchy Reservoir... .....capacity 380,080 acre feet
Canyon Power Tunnel..... .....capacity 1,100 second feet
Early Intake Reservoir ....capacity 155 acre feet
Lake Eleanor Reservoir.... .....capacity 27,100 acre feet
Lake Lloyd Reservoir..... .....capacity 268,800 acre feet
Eleanor-Cherry Diversion Tunnel...capacity 1,140 second feet
Cherry Power Tunnel..... .....capacity 830 second feet
Lower Cherry Aqueduct... .....capacity 250 second feet
Mountain Tunnel..... .....capacity 730 second feet
Priest Reservoir..... .....capacity 1,055 acre feet
Moccasin Reservoir..... .....capacity 505 acre feet
Foothill Tunnel..... .....capacity 620 acre feet

> Water from the Hetch Hetchy Aqueduct is normally released from Hetch Hetchy Reservoir through the Canyon Tunnel and Kirkwood Power House where, for quality control, it is diverted around Early Intake Diversion Dam into Mountain Tunnel. Water can also be diverted into Mountain Tunnel from the Early Intake Reservoir. From Early Intake water is conveyed to Priest Regulating Reservoir and through Moccasin Power House and then into the Foothill Tunnel and pipelines across the San Joaquin Valley.
>
> Water released from Lake Lloyd through the Cherry Power Tunnel and Holm Power House is discharged into the Cherry River at an elevation below Early Intake Diversion Dam. However, water from Lake Lloyd and Lake Eleanor can be conveyed to Early Intake Diversion Dam and into Mountain Tunnel in natural channels and diverted into the Lower Cherry Aqueduct upstream from Holm Power House.[5]

Modesto Irrigation District and Turlock Irrigation District developed reservoirs and extensive canals downstream of Hetch Hetchy, but substantially earlier in time. The La Grange Dam (capacity 500 acre feet) (1894), Modesto Reservoir (capacity 28,000 acre feet) (1911) and Turlock's Davis-Owen Lake (capacity 48,740 acre feet) (1914), together with canals and headgates for delivery to the respective Districts and a power plant at La Grange, were begun before 1910, and enlarged before 1914. The original Don Pedro Reservoir (290,200 acre feet) was completed in 1923. By agreement, the Districts divide the water diverted at La Grange with about one-third going to MID and two-thirds to TID.

CCSF and the U.S. Army Corps of Engineers joined with the Districts in the construction of "New" Don Pedro Reservoir (capacity 2,030,000 acre feet), which became operational in 1971. In exchange for CCSF's financial participation, CCSF obtained (among other things) relief from flood control responsibility on the Tuolumne River plus up to 740,000 acre feet of exchange storage rights in the reservoir.[6] The Districts are the owners of New Don Pedro and TID is the Don Pedro Project Manager. Under the exchange agreement, increased diversions to the CCSF water system are not made physically from the New Don Pedro Reservoir. Instead, CCSF's exchange storage space in the reservoir is operated to store water that is credited to CCSF, and CCSF is allowed to make additional diversions upstream to the extent that a credit exists in the reservoir, thus permitting its use by CCSF when the Raker Act would otherwise obligate it to release water for the benefit of the

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[5] Fuller and Stretars, *supra*, at pp. 3-4.

[6] CCSF's financial contribution obtained for it a right to 570,000 acre feet of storage in New Don Pedro called "exchange storage," and a seasonal encroachment right to up to half of the reservoir's 340,000 acre-foot reserve capacity for flood control. (*In re The Matter of Turlock Irrigation District and Modesto Irrigation District Project No. 2299* (1963) 31 F.P.C. 535, 1963 F.P.C. LEXIS 316 (LEXIS pagination used herein) ("Initial Decision").)

Districts. This exchange storage and credit system is known as the "water bank" in New Don Pedro. The Districts own and have the exclusive control and use of all water stored in Don Pedro Reservoir, including all water in the water bank. Therefore, the water bank should be more realistically viewed as being "paper water" or accounting storage as far as CCSF's "storage" rights are concerned.

The physical and legal relationship of CCSF to the Districts is that of an upstream, junior rights holder. The Raker Act, in addition to granting San Francisco authority to build on federal land, obligated CCSF to make releases to satisfy the Districts' prior rights. All releases from CCSF's facilities upstream flow into New Don Pedro. Releases from New Don Pedro are under the exclusive control of the Districts, with minimum flows set pursuant to the terms of their FERC license. No further development of the water supply system on the Tuolumne River has occurred since 1965.[7] However, in 1967, CCSF completed Canyon Power Tunnel and the Robert C. Kirkwood Powerhouse. At that time, diversion of water changed from Early Intake Dam to Hetch Hetchy Reservoir, upstream, evidently to capitalize on additional hydroelectric development capability.[8]

The capacity of CCSF's three pipelines that convey Tuolumne River water across the San Joaquin Valley to the Bay Area is 295 mgd.[9] The tunnel at Tesla Portal can carry 300 mgd. According to testimony in Examiner Hall's proceedings on the Districts' 1963 applications for a FERC license for New Don Pedro, prior to the construction of New Don Pedro, CCSF then needed an additional 674,000 acre feet of storage to yield its full claimed water right of 400 mgd. Because CCSF obtained a greater storage capacity than that in many years, it is reasonable to conclude that presently, the principle part of CCSF's infrastructure that constrains its full development of Tuolumne River rights for water supply remains in the conveyance facilities, i.e., the pipelines and tunnels carrying the water from the Sierras to the Bay Area.

II.
THE PARTIES, THE PRINCIPALS, AND THEIR RELATIONSHIP TO EACH OTHER, AND TO THE TUOLUMNE RIVER

CCSF has vested water rights to the Tuolumne River and owns real property and facilities in Hetch Hetchy Valley and in the surrounding watersheds of the Tuolumne River and Cherry River. CCSF's water department service area includes all the northern end of the San Francisco peninsula, extends south along the shores of the San Francisco Bay to include the cities of Mountain View and Sunnyvale, easterly to include the city of Milpitas, and

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[7] However, in 1969 CCSF added the New Moccasin Powerhouse, a two-generator 45,000 KW capacity plant, directly adjacent to the old unit.

[8] Fuller and Stretars, *supra*, at p. 17.

[9] A schematic drawing showing the placement of the CCSF water supply infrastructure is attached as Exhibit A.

northerly along the eastern shores of the Bay to include the city of Hayward. More than 40 other cities, districts and agencies are supplied with water from the San Francisco system.

The Districts have vested water rights to the Tuolumne River and own real property and facilities in the foothills of that watershed and in the valley below. The Districts are two of the largest irrigation districts in the state, and have been engaged in the irrigation business since 1894 and the power business since 1924. They own and operate extensive facilities for the distribution of irrigation water and electric power in Stanislaus and Merced counties. As discussed more fully below, the Districts are intimately tied to one another and to CCSF through a long history of shared, and mostly cooperative, reliance on the Tuolumne River.

Other potential principals in the unfolding history of Hetch Hetchy and the Tuolumne River are the regulatory agencies and the courts. California's State Water Resources Control Board was asked, in complaints filed by representatives of the Sierra Club, in 1977 and 1982, to investigate whether CCSF had exceeded the scope of its appropriations. The complaints asserted that CCSF's diversions from Cherry Creek were unauthorized, and that construction of a low-head hydroelectric power plant below Moccasin Reservoir was not within the scope of the original CCSF appropriations. Although these complaints did not result in enforcement action, the SWRCB could respond to such complaints in the future, and could investigate and initiate court action to restrict unauthorized CCSF diversions if it were to substantiate the allegations.[10]

The California Department of Fish and Game ("CDFG") has statutory responsibilities for maintenance and preservation of fisheries and fish habitat. The public trust extends to fish.[11] As such, CDFG may have the authority to initiate actions to protect the fishery resource from CCSF diversions endangering fish in the upper Tuolumne River. Such actions could include engaging the SWRCB or the courts.[12]

In addition to CDFG, federal fish and wildlife agencies may have a significant role to play, particularly in evaluating and perhaps applying limitations imposed by the Federal Endangered Species Act.[13] These agencies include the Fish and Wildlife Service and NOAA Fisheries.

The Federal Energy Regulatory Commission controls licensing and a licensee's compliance with the FERC license for most large hydroelectric facilities. As part of its authority, and subject to NEPA, FERC must protect fisheries and other species reliant on the waterway's habitat. The District-owned New Don Pedro dam and hydroelectric powerplant

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10 Water Code sections 274, 1051-1052.

11 *California Trout, Inc. v. State Water Resources Control Bd.* (1989) 207 Cal.App.3d 585, 631 ("*Cal-Trout*").

12 See, e.g., *id.*, at p. 631 [relative to post-1914 water right permits].

13 16 U.S.C. § 1531 et seq.

are licensed by FERC. To the extent CCSF's diversions affect compliance with the Districts' FERC license, FERC may indirectly shape CCSF's decisionmaking with respect to the alternatives that are available to it. In addition, CCSF's water bank storage credits in New Don Pedro are subject to reduction if, in further proceedings before the FERC, the FERC increases the water release requirements for fish that impair the Districts' water entitlements.

The courts are charged with defining the validity and scope of water rights of pre-1914 appropriators when the extent of such rights or claims is in dispute. The parties themselves may initiate court action for this purpose, through a complaint for injunction, declaratory relief, or other remedy. Other water rights holders on the same stream may seek an adjudication. Citizen groups with standing to raise public trust concerns, or to assert violations of environmental protections statutes such as CEQA or NEPA, may also engage the courts and thereby affect CCSF's decisions with respect to Hetch Hetchy.

III.
THE LAW THAT APPLIES

A. Water Law

1. Pre-1914 Appropriations, Defined

Before the California Legislature adopted the Water Commission Act in 1913,[14] a right to appropriate water could have been obtained in one of two ways. Either the individual could have simply diverted water from a stream and put it to a beneficial use immediately, whereupon the person would acquire the right to use indefinitely a similar amount of water from that diversion for use on the same lands. Alternatively, after 1872, an individual might choose the "notice" method of appropriation prescribed by Civil Code sections 1410a-1422.[15] Under this second method, if the construction of the diversion works was begun within 60 days of the posting of notice, and thereafter pursued "diligently" and "uninterruptedly" to completion, the right of appropriation would relate back in time to the date the notice was posted. Eventually, important amendments were added to the notice method so that municipal appropriators would be excused from the penalty of loss of priority if their progress was interrupted by failure to develop more than the current needs of the community, provided surveys associated with future use were done within 60 days, or bonds for water facilities were authorized within six months of the date of the original notice.[16]

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[14] See Water Code section 1250 et seq. and historical annotations.

[15] Specifically, Civil Code section 1415 provides that the appropriator must post the notice at the point of diversion stating the extent of flow (measured under 4-inch pressure), the purpose and place of use, and the means and capacity of the diversion works, which notice must be recorded within 10 days in the county where the diversion is located. Change of place of use or diversion was permitted provided no injury to others occurred.

[16] Civil Code section 1416; Stats. 1911, c. 730, p. 1419, § 1.

The primary features of this code method of appropriation were notice, diligence and "relation-back." Like the non-statutory method, code appropriations depended on actually putting the water to beneficial use, after uninterrupted efforts, to perfect the right.[17] Posting a notice was not conclusive evidence of actual possession of the watercourse by which appropriative rights were acquired.[18]

A code appropriator whose notice of appropriation did not comply with the requirements of the Civil Code could not claim the benefits of relation-back.[19] However, until December 19, 1914,[20] an attempted code appropriator whose notice or recording efforts did not conform to the statute might still obtain a valid non-statutory appropriative right with a priority dating from the time it was *perfected*, by actually putting the water to a useful purpose.

The significance of this legal background becomes obvious when viewed against the factual backdrop of CCSF's and the Districts' code appropriations. The potential consequences for defective notice or recording, or for lack of diligence, are loss of priority and loss of the unexercised portion of appropriation. In a stream like the Tuolumne River, where flow is seasonal and runoff entering the waterway is at times virtually nonexistent,[21] unless one's right has a very senior status it may be ephemeral. Loss of priority may literally be fatal.

2. Validity and Scope of CCSF's Pre-1914 Appropriations

a. The Notices

The Recorder of Tuolumne County received 67 notices regarding water of the upper watershed of the Tuolumne River between 1901 and 1911 which were the genesis of CCSF's water rights. Of these, 54 were for appropriation of water, and the remainder were for rights-of-way for canals or ditches, inundation for power generation, or other water related purposes.[22] In the 1934 lawsuit filed by the Districts against CCSF, the answer filed by CCSF relied on 47 of these appropriations. In the later *Meridian* lawsuit,[23] CCSF presented evidence of 47 notices of appropriation that were owned by San Francisco at that time. A

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17 *Utt v. Frey* (1895) 106 Cal. 392, 395; *Sierra Land & Water Co. v. Cain Irrigation Co.* (1933) 219 Cal. 82, 84.

18 *Thompson v. Lee* (1857) 8 Cal. 275.

19 *Taylor v. Abbott* (1894) 103 Cal. 421, 423-424.

20 This was the effective date of the Water Commission Act, which made application to the state the sole means of acquiring an appropriative right. (Wat. Code, § 1200 et seq.)

21 See *State of California v. Federal Power Commission* (1965) 345 F.2d 917.

22 Report by Paul Bailey to Modesto Irrigation District and Turlock Irrigation District ("Bailey Report") (1934) at pp. 49-50. Bailey was formerly the California State Engineer who served as the Districts' consultant during the litigation in the early 1930's.

23 *Meridian, Ltd. v. San Francisco* (1939) 13 Cal.2d 424.

cursory review of these notices indicates they total about 817,000 miner's inches[24] on paper, far more than the amount of CCSF's actual claimed water rights today.

In his 1934 report to the Districts, prepared during litigation with CCSF that led to the first of four agreements (see Part III.D., *infra*), former California State Engineer Paul Bailey examined each of the 67 notices of appropriation in scrupulous detail.[25] Bailey believed CCSF acquired only 14 noticed appropriations which fully conform to the Civil Code requirements, yielding on their face approximately 5,780 cfs.[26] However, after analyzing the limited ability of CCSF in 1934 to store and convey the Hetch Hetchy water in a manner consistent with Raker Act and pre-1914 California law, Bailey concluded that even the validly noticed CCSF water rights would yield only approximately 200 mgd.[27]

Bailey listed several reasons for his conclusion; however, his analysis was eclipsed by the California Supreme Court opinion in *Meridian, Ltd. v. San Francisco* (1939) 13 Cal. 2d 424.

b. The *Meridian* Decision

In *Meridian*, a farming corporation with riparian rights to the Tuolumne River sued CCSF, the Districts and others, to enjoin illegal or injurious diversion, and to quiet title to its own water rights. CCSF responded by claiming it possessed valid appropriations yielding up to 400 mgd in diversions, as well as prescriptive rights to store surplus high waters in its Hetch Hetchy and Lake Eleanor reservoirs. The trial court considered the validity and scope of each of the 47 notices of appropriation on which CCSF relied, evaluated CCSF's historical and projected use of the water for power and domestic uses, and concluded that CCSF was entitled to only 142 mgd.[28]

The Supreme Court partially reversed the trial court.[29] It found that CCSF held prescriptive storage rights for surplus waters in Hetch Hetchy and Lake Eleanor reservoirs of up to 235,465 acre feet, which rights were superior to the plaintiff's riparian rights.[30] It also held that even if the notices were defective for failing to specify the storage use, a liberal construction of the notices, as compelled by *Osgood v. El Dorado Water & Deep Gravel*

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24 The notices are expressed in miner's inches, which convert 50:1 to cubic feet per second ("cfs"). Cubic feet per second refers to a rate of flow. Thus a total of 817,000 miner's inches (plus "all water" in Eleanor Creek) equals at least 16,340 cfs, or more than 10,000 mgd - three times CCSF's current diversion.

25 Bailey Report, *supra*, at pp. 52-157.

26 Compare to CCSF's current claim of 400 mgd, which converts to 619 cfs, or 448,000 acre feet 365 days per year. (Initial Decision, *supra*, 31 F.P.C. at *29, n. 23.)

27 Bailey Report, *supra*, at p. 156.

28 *Meridian, Ltd., supra,* 13 Cal.2d at p. 442.

29 *Id.*, at p. 451.

30 *Id.*, at p. 495.

Mining Co. (1880) 56 Cal. 571, 579, necessitated a result in favor of CCSF's right to store enough water to yield the noticed 400 mgd.[31]

In sum, the *Meridian* decision solidified, but did not determine, CCSF's claim to appropriative rights yielding 400 mgd. It also gave CCSF a prescriptive right to store over 235,000 acre feet which was superior to downstream riparians as well as subsequent appropriators on the Tuolumne. Arguably the *Meridian* court's statement that CCSF's rights were sufficient to yield 400 mgd is dicta, in that the court never fully analyzed the trial court's detailed evaluation of the notices of appropriation, instead resolving the larger question by finding in favor of prescription.

c. Other References to the Scope of CCSF's Appropriative Rights

The record is muddled regarding the extent of CCSF's appropriations. In numerous later actions and fora, the 400 mgd figure has been anecdotally referenced as the extent of CCSF's appropriative water rights in the Tuolumne River. The Districts asserted 400 mgd was the legitimate scope of CCSF's water rights in their license proceedings for the New Don Pedro project before the Federal Power Commission in 1961-1963.[32] The SWRCB has concluded that something close to the 400 mgd figure represents the extent of CCSF's pre-1914 appropriations out of the Tuolumne.[33] CCSF has relied on the 400 mgd figure in protecting its own interests before the Federal Energy Regulatory Commission.[34]

However, in its testimony before the SWRCB during the interim water rights phase of the Bay-Delta hearings in July 1992, CCSF cautiously indicated it had historically relied on

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[31] *Meridian, Ltd., supra*, 13 Cal.2d at p. 455. A problematical but unanswered question is whether CCSF's prescriptive storage right, which the court specified was superior to the plaintiff's riparian rights and code appropriations, would also be superior to the rights of the Districts. A prescriptive water right in California, being acquired outside the scheme of prior appropriation, is similar to a riparian right. Ordinarily, riparian rights are superior to appropriations. Similarly, prescriptive rights yielded title that was good not only as against the former holder, but against all the world. However, the courts viewed a prescriptive right as similar in character to the right acquired by appropriation, because both engender a trespass against the water otherwise flowing to the riparian. As a result, the concept of "first in time, first in right" was incorporated into prescriptive rights that were acquired by diversion. Since CCSF acquired the prescriptive right in 1939 with the *Meridian* decision, it appears the Districts' older appropriations are senior and, therefore, superior to CCSF's prescriptive storage rights. The so-called Fourth Agreement between the Districts and CCSF, discussed in detail below, may render this question moot.

[32] In these proceedings the Districts applied for and received the right to develop a greater storage and power generator facility on the site of the old Don Pedro dam. CCSF, which paid for a substantial portion of the construction cost, was not a party to the proceeding. (Initial Decision, *supra*, 31 F.P.C. at p. 547.)

[33] Although the SWRCB has no jurisdiction to bestow or revoke pre-1914 appropriations, it may nevertheless enforce the laws against unlawful diversions. (Wat. Code, §§ 1051-1052.) On occasion it has considered complaints of CCSF's excess diversion and decided not to enforce these after concluding CCSF's diversions were within their permissible scope. (See, e.g., Complaint of Robert Hackamack, Summary of SWRCB Investigation (6/15/83, and SWRCB internal memorandum of May 14, 1982, discussed *ante,* at n. 3).

[34] Response to Data Request Concerning FERC Opinion 420 (June 8, 1993) at p. 41.

projected yields of "more than 300 mgd," consistent with the maximum capacity of the present Hetch Hetchy water and power conveyance infrastructure, in its long range planning.[35] In the same testimony, CCSF offered that the present annual demand of CCSF and its wholesale Bay Area customers is only 285 mgd.[36] With strict rationing, as was undertaken during the 1987-1992 drought, CCSF has successfully reduced its demand to 240 mgd.[37]

Although the consensus over time appears to be that CCSF holds pre-1914 water rights to the extent of 400 mgd, this may ultimately prove to be without foundation. CCSF has never developed the capability of diverting 400 mgd, nor has its demand even remotely approached that amount. Even the California Water Plan assumed less than 300 mgd will be consumed by the San Francisco Bay Area until the year 2020.[38]

As stated at the outset, the heart of the system of prior appropriation is diligently putting the water resource to beneficial use. "Diligence is the essence of priority" under the Civil Code.[39] There is some question about how long CCSF may continue to claim the future right to divert 30 percent more than it has been able to use in the past 100 years. Such a right is, at best, inchoate, and may well prove illusory upon closer scrutiny. The law favors reasonable *use* of water,[40] not nursing a priority which has never been exercised.

B. The Raker Act

In special session in 1913, Congress passed legislation introduced by Manteca Congressman John Raker, and sponsored by CCSF. The bill's principal purpose was to provide CCSF a right-of-way within Yosemite National Park for access to build its proposed Hetch Hetchy project, and to convey water to its power plants located outside the Park's borders, and thence to the Bay Area. As part of the conditions for the grant of right-of-way, Congress specifically recognized the Districts' prior rights to water and required CCSF to protect those rights. Further, Congress mandated that any hydroelectric power generated by CCSF pursuant to the right-of-way be used for public purpose and not for profit. Because the Raker Act allowed CCSF to build the hydroelectric facilities independent of and prior to enactment of the Federal Power Act, FERC does not have licensing authority over the Hetch Hetchy facilities.

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35 SWRCB transcript of testimony submitted by San Francisco in 1992 hearings on Interim Decision D-1630 water rights proceeding, catalogued as WRINT S-FRISCO, Exh. No. 1, p. 10.

36 *Ibid.*

37 *Ibid.*

38 California Water Plan, DWR Bulletin 160-98, assumed a maximum transfer of 330,000 acre feet, or roughly 300 mgd to CCSF from the Tuolumne River Basin. (DWR Bulletin 160-98, p. 3-40.)

39 *Sierra Land & Water Co. v. Cain Irr. Co.* (1933) 219 Cal. 82, 84.

40 *Joslin v. Marin Mun. Water Dist.* (1967) 67 Cal.2d 132; Cal. Const., art. 10, § 2.

1. The Garfield Permit

James R. Garfield was Secretary of the Interior in 1907. In 1905, CCSF had applied to the Interior Department for access right-of-way permits in Yosemite National Park to develop the Hetch Hetchy project, including Lake Eleanor. Garfield's predecessor had turned down the application based partly on President Roosevelt's belief that Congress needed to authorize such a grant.[41] Though the case appeared closed, and the intervening 1906 fire and earthquake destroyed CCSF's records, nevertheless, in 1907 the application was resurrected. Garfield granted reconsideration of CCSF's request.[42]

The Districts claimed a superior right to divert Tuolumne River water, and that CCSF's proposal could not be satisfied without injuring the Districts.[43] This claim probably amounted to an assertion of the right to divert as much water as would ultimately be needed to irrigate the Districts.[44]

Garfield compromised by granting the rights-of-way to CCSF provided the Districts' right to 1,500 cfs (Turlock) and 850 cfs (Modesto) would not be interfered with by CCSF's diversion and storage in Lake Eleanor and Hetch Hetchy Reservoir. In addition, Garfield insisted that CCSF sell its excess electrical power to the Districts, at cost.[45] Finally, the Garfield permit included a provision requiring CCSF to return to the river surplus stored water that could be used for power.[46]

With a change in Administration came a new Secretary of Interior who was not friendly to the Hetch Hetchy Project. Consequently, an order to show cause was issued by the Secretary of the Interior, R.A. Ballinger, requiring CCSF to support retaining the Hetch Hetchy reservoir in the plan of development and to establish why the Garfield Permit should not be revoked.[47] Nevertheless, it is apparent from the extensive similarity that the original Garfield Permit is the genesis of the Raker Act and, as such, is a significant resource on matters of legislative intent.

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41 Picker, et al., *The Raker Act: Legal Implications of Damming and Undamming Hetch Hetchy Valley* (1988) 21 U.C. Davis L.Rev. at p. 1313, citing J. Clark, *Life and Adventures of John Muir* (1979) at p. 279.

42 Picker, et al., *supra,* at p. 1314.

43 Picker, et al., *supra,* at p. 1311, n. 24.

44 The Districts stated: "We are entitled to the water to the amount of our original appropriations, provided we can make use of the same and in that event, we contend that there will not be water for San Francisco and its neighboring cities sufficient to meet with the least of their demands." (Picker, et al., *supra,* at pp. 1311-1312, n. 24.)

45 The Garfield Permit, par. 6 (reprinted in Hetch Hetchy Valley, Report of Advisory Bd. of Army Engineers to Sec'ty of the Interior (1913) at p. 8).

46 The Garfield Permit, *supra*, par. 5.

47 Picker, et al., *supra,* at p. 1315; Report of Advisory Bd. of Army Engineers, *supra,* at p. 8.

2. The Freeman Report

CCSF responded to the order to show cause why Hetch Hetchy should not be eliminated from the permit by hiring John R. Freeman, a consulting engineer. Instead, Freeman prepared a report to the Secretary of Interior that completely redesigned the project and proposed the permit be modified. His proposal contained a series of dams, canals and tunnels that could deliver up to 400 mgd to the Bay Area as well as producing power, and which made Hetch Hetchy the indispensable hub of the system.[48] In one stroke, Freeman rendered the Garfield Permit an anachronism and put CCSF back on the offensive, with plans to divert 70 percent more water than anyone had considered possible before.

Freeman's recommendations were received by the Interior Department, which attempted to incorporate certain of his changes into the revised Garfield Permit. These failed, whereupon CCSF appealed to Congress.

3. The Legislation

The final product of this six-year effort was the Raker Act, a coalescence of the Garfield Permit and the Freeman plan. It granted to CCSF the crucial rights-of-way needed to develop a dam in Yosemite National Park on certain conditions.[49] The primary condition was that CCSF recognize the Districts' "prior rights . . . [to the extent of 2,350 cfs of the Tuolumne's natural flow.]."[50] In addition, when the amount of water released from Hetch Hetchy is lower than 2,350 cfs, CCSF must release water bringing the flow of the Tuolumne at La Grange Reservoir up to that amount if necessary for Districts' beneficial use.[51] Finally, for 60 days from April 15 each year CCSF must release up to 4,000 cfs of the Tuolumne's natural flow for the Districts to store in their reservoirs below Jawbone Creek.[52] When the natural flow is less than Districts can beneficially use, and less than 2,350 cfs, CCSF must release the entire natural flow.[53] CCSF may not export from beyond the San Joaquin Valley any more water of the Tuolumne watershed "than, together with the waters which it now has or may hereafter acquire, shall be necessary for its beneficial use for domestic and other municipal purposes."[54]

In sum, the Raker Act affects the water rights of the parties in the following ways: (a) it establishes that the Districts have rights of *at least* 2,350 cfs or (seasonal) 4,000 cfs, that are prior to CCSF's water rights; (b) it imposes a binding obligation on CCSF to protect

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48 Report of Advisory Bd. of Army Engineers, *supra,* at pp. 7-8, 19, 39.
49 38 Stat. 242.
50 38 Stat. 246, § 9(b).
51 38 Stat. 246, § 9(c).
52 *Ibid.*
53 The Act also provides for sale of water from CCSF's storage to the Districts at cost (38 Stat. 246, § 9(d)), and permits CCSF to use its power for at-cost municipal sales only. (38 Stat. 248, § 9(l).)
54 38 Stat. 247, § 9(h).

the Districts' prior rights to that extent, and (c) it requires CCSF to use its own resources before exporting Tuolumne River supplies. Nowhere does the Raker Act mention CCSF's rights to 400 mgd, nor does it grant or formalize such a right. The Raker Act specifically provides that it will not affect, in any way, the laws of the State of California regarding water rights.[55] Fundamentally, the Raker Act is only a conditional grant of right-of-way to CCSF.[56]

4. Compliance by CCSF

CCSF accepted the terms and conditions of the Act in accordance with section 9(s), within 24 days of the date the Raker Act was passed.[57] In addition CCSF filed the maps required by section 2 of the Raker Act within the three-year deadline imposed by Congress.[58] No maps were filed thereafter, nor did Congress make any provision for subsequent filings.

The rights-of-way secured by CCSF's maps filed with the Secretary of Interior included only Lake Eleanor, Hetch Hetchy and Cherry Valley Reservoirs and the lower Cherry River and Early Intake diversion sites.[59] The maps state the capacity of Lake Eleanor as 289,862.9 acre feet, Hetch Hetchy as 345,000 acre feet, and Cherry Valley as 62,408 acre feet, totaling 697,270.9 acre feet.[60] CCSF offered these maps into evidence during the *Meridian* trial. The disparity in size between Cherry Valley (Lake Lloyd) at the present time and at the time the maps presented to the *Meridian* court were drawn raises interesting questions concerning whether CCSF is already exceeding the scope of the original plan of development set forth in the Freeman Report. Nonetheless, even though the present configuration of these reservoirs is different than at the time of the legislation, the total amount of water stored in the Hetch Hetchy system does not exceed the overall capacity contemplated by the CCSF submittals to the Secretary of Interior in 1914-15.

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55 38 Stat. 250-251, § 11.
56 38 Stat. 242 and 245, §§ 8 and 9.
57 Bailey Report, *supra*, at p. 34.
58 *Ibid.*
59 Bailey Report, *supra*, at p. 35.
60 The capacity given for these same facilities today is different: Hetch Hetchy (now called O'Shaughnessy) holds 360,400 acre feet, Lake Eleanor 27,100 acre feet, and Cherry Valley Reservoir 268,800 acre feet, totaling 657,000. (WRINT - S FRISCO-1, p. 7.)

Enforcement of the Raker Act's provisions is provided for in the Act itself.[61] CCSF has previously been forced to defend in court its power sales practices alleged to be in violation of the Raker Act.[62] CCSF also lost a lawsuit by the government to enforce CCSF's road building and road maintenance obligations under the Raker Act, in Yosemite Park.[63]

"Congress may constitutionally limit the disposition of the public domain in a manner consistent with its views of public policy."[64] Just as Congress "clearly intended to require - as a condition of its grant" that San Francisco sell its power solely to municipal agencies,[65] or that CCSF honor the Districts' water rights under California law, it is reasonable to conclude that Congress also intended for CCSF to rely on Tuolumne River water only to the extent it had fully developed its other resources. Nothing in the language of the statute fixes this limitation as of a particular time; accordingly, CCSF is arguably under a continuing obligation to develop its own resources, as by recycling, conservation, desalinization, and other available means, in order to relieve the pressure of its exports from the Tuolumne River and the Hetch Hetchy Valley. The Raker Act bestows no water rights on CCSF that are independent of state law. The congressional authorization was limited, both by the conditions of the grant and by the scale of the facilities that were proposed to Congress in 1913.[66] Thus, any future expansion of CCSF's water development on the Tuolumne which intrudes on federal lands may not rely on the Raker Act authorization.

C. Federal Power Act – FERC Decision

In 1963, Francis L. Hall, the presiding examiner for the Federal Power Commission (now FERC), rendered his Initial Decision Upon the Application for License by Modesto Irrigation District and Turlock Irrigation District ("Initial Decision"). The Districts had applied for a major license to build, operate and maintain a hydroelectric facility and dam known as the New Don Pedro project, to replace their existing Don Pedro project on the

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61 "[I]n the exercise of the rights granted by this Act, the grantee shall at all times comply with the regulations herein authorized, and in the event of any material departure therefrom the Secretary of the Interior or the Secretary of Agriculture, respectively, may take such action as may be necessary in the courts or otherwise to enforce such regulations." (38 Stat. 245, § 5.)

62 See, e.g., *United States v. City and County of San Francisco* (1940) 310 U.S. 16, 26-30 [right-of-way grant is conditional on use of power for municipal purposes only; resale to private corporation found to violate the Act].

63 *United States v. City and County of San Francisco* (N.D. Cal. 1953) 112 F.Supp. 451.

64 *United States v. City and County of San Francisco, supra*, 310 U.S. at p. 30.

65 *Id.* at p. 26.

66 Congress never intended the Raker Act, which contains many limitations, to be a grant without limitation, nor did it anticipate that the diversion of water to San Francisco would ever exceed the capacity of the reservoir facilities it authorized to be constructed, that is, the capacity of those facilities after providing for the water rights of the lower appropriators . . . . Under no circumstances can San Francisco's planning for an ultimate diversion in excess of 400 [mgd] be construed as Congressional authorization therefor. (Initial Decision, *supra*, 31 F.P.C. at **33-34.)

Tuolumne River. In describing the purposes of the project, Examiner Hall observed that the Districts were "pioneers" of irrigation through use of the La Grange Dam, completed in 1894, and through provision of low cost power to the Districts' service areas. New Don Pedro, by "making much more of the Tuolumne River water usable, will improve the base of this economy in a real and important way. It will, in short, better rearrange and retime nature to more adequately meet the water needs of those served by the Districts." However, not only the Districts were to benefit. Examiner Hall noted as well, that the project was designed to "enable San Francisco to meet its estimated water needs and to provide for flood control. In fact it clearly appears that San Francisco's desire to have the project constructed is a dominant, if not the dominant, purpose for its construction."[67] In this regard, Examiner Hall observed that San Francisco was providing about half of the financing with which the project would be constructed.[68]

In evaluating whether to grant the license and on what terms, Examiner Hall reviewed the Districts' and CCSF's water rights, and the authorizations granted to CCSF by the Raker Act. The Initial Decision stated that the license request "presents not only the question of fact as to the benefits to be derived from the construction of New Don Pedro, but also the legal question of whether what is proposed conforms with the rights, duties and responsibilities arising by virtue of the Raker Act."[69] In this regard, Examiner Hall noted that the Raker Act required CCSF to recognize the rights of the Districts to 2,350 cfs measured at La Grange diversion dam, to release the necessary amount of water to assure the flow of 2,350 cfs, and to sell additional amounts of stored water as needed for the Districts' beneficial use at actual cost, and that the Districts had the right to take free of charge 2,000 cfs of the natural flow of the Tuolumne River during the 60 day period beginning April 15th each year.[70]

The evidence placed before the Commission emphasized that CCSF urgently needed more storage space to provide for CCSF's increasing municipal water requirements, which were then becoming a matter of urgency, until the year 2015.[71] The New Don Pedro water bank, as proposed by agreement of the Districts and CCSF, would allow CCSF to store up to 740,000 acre feet in New Don Pedro, consisting of exchange credit and half of the reservoir's flood storage during the non-flood season. Examiner Hall concluded that the Raker Act requirements would be "superimposed upon any license issued by the Commission for New Don Pedro."[72] Further, Examiner Hall stated that "What San Francisco was authorized to do in the way of construction, the volume of water Congress intended it to divert, the disposition

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67 Initial Decision, *supra*, 31 F.P.C. at *3.

68 *Id.* at *12, n. 10. The federal government, through a contract between the Districts, CCSF and the U.S. Army Corps of Engineers, would provide an additional payment of over $14 million for purchase of flood control capacity in the New Don Pedro project. (*Id.* at *14.)

69 *Id.* at *6.

70 *Id.* at *5, n. 5.

71 *Ibid.*

72 *Id.* at *10.

it makes of its power, and its obligations to the Districts and others are matters governed by the provisions of the Raker Act to the extent it is applicable – not the terms of private contracts between the Districts and San Francisco. Moreover, insofar as the issuance of a license for New Don Pedro is concerned, such private contracts must yield to regulatory authority and can be given only force and effect as sanctioned by the Commission."[73] Accordingly, and as a condition of issuance of the license, CCSF and the Districts were required to enter into an agreement that was subject to the Commission's approval, requiring, among other things, that CCSF pay its fair share of the cost. Examiner Hall found that CCSF's capability for delivering water to its service area was, at that time, fixed at 210 mgd.[74] Examiner Hall explained:

> It is not the extent of the State water rights San Francisco acquired but rather the capacity of the facilities Congress authorized that is controlling. Moreover, one will search in vain for any reference in the Raker Act to an ultimate diversion of 400 mgd by San Francisco. Under no circumstances can San Francisco's planning for an ultimate diversion in excess of 400 [mgd] be construed as Congressional authorization therefor. . . . What San Francisco is here seeking is a right it does not now possess, namely, the right to divert all the water it stores in the Tuolumne River headwaters - - to the extent it is needed and possible to do so. . . . It is the ceiling imposed by the Raker Act that is wholly responsible for San Francisco's present problem which it seeks to overcome through the contribution of millions of dollars to the New Don Pedro construction cost. Stated another way, the Congressional concept embraced in the Raker Act, to which San Francisco acceded, placed the water rights of the Districts and others on San Francisco's back and this, together with the limited capacity of San Francisco's reservoirs, has led San Francisco to a dead-end. . . . [It] confronts San Francisco with the realization that it must embark upon a considerably different and better approach. But any reorientation to meet its ever-changing requirements must take into account the hard facts of the Raker Act and the Commission's regulatory power.[75]

In addition to the foregoing capacity limitations and requirements to store and bypass water for the benefit of the Districts, Examiner Hall found another limitation imposed by the Raker Act precluded CCSF from utilizing power produced by the Tuolumne River development in Yosemite Park for sale to private entities for resale. Examiner Hall found that a similar ceiling operated by virtue of the Raker Act on the ultimate development of CCSF's hydroelectric capacity. Examiner Hall questioned whether CCSF had the authority under the Raker Act to develop its Canyon power plant and other new facilities that tripled the output of the development from what was the system's capacity as proposed at the time

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73 *Id.* at **15-16.
74 *Id.* at *32.
75 *Id.* at **34-35.

the Raker Act was passed, but because CCSF was not technically a party to the licensing proceedings, did not go so far as to demand additional evidence or render a ruling in this regard.[76]

Examiner Hall's position throughout the Initial Decision was that the Raker Act was consistent with, and even the "mould" in which the later Federal Power Act was cast, and that therefore, any interpretation of the Commission's authority and responsibility should properly be guided by the Raker Act's provisions.[77] Accordingly, the fact that CCSF could under California law claim a municipal preference vis a vis irrigation purposes was irrelevant. Because the Raker Act specified that the Districts' water rights were subject to protection under the Raker Act, the Commission must afford that same protection. In effect, the Raker Act "modified the State water permits San Francisco had obtained," according to Examiner Hall, and as a result, CCSF could not interfere with the Districts' rights.[78] Examiner Hall avoided the potential conflict by distinguishing between water rights the Districts and CCSF had already perfected and used from water rights proposed to be used for irrigation and municipal purposes. Increases in storage by the Districts, or over the 210 mgd capacity of CCSF's then maximum diversions, were subject to limitation by the Federal Power Commission.[79]

The decision to grant a license also required the Commission to implement the Federal Power Act's provisions for protecting fisheries affected by the proposal. Examiner Hall was reluctant to force the Districts alone to bear the entire burden of fish releases from New Don Pedro. Thus, although maintenance of minimum stream flows in the Tuolumne River was required at the La Grange Bridge, Examiner Hall required CCSF and the Districts to enter into an agreement that would apportion the burden between them, both in water and economic costs, subject to the Commission's approval, and subject to reopening in the future.[80]

Finally, Examiner Hall determined that California's needs for recreational facilities were "far greater" than in 1913, and that the Districts and CCSF should therefore be required to construct and maintain such facilities as a condition of the license. The Raker Act was explicit, and legislative history supports congressional intent to insure that recreational opportunities would remain available and accessible in the Park, which would be displaced

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[76] *Id.* at **5, 36-37, 47. Examiner Hall did go so far as to suggest that further investigation might be warranted whether San Francisco's development and recent construction of additional facilities was in conformity with the Raker Act authorization. (*Id.* at *47.)

[77] *Id.* at *53.

[78] *Id.* at *56.

[79] *Id.* at *62. For this, Examiner Hall relied on the authority contained in Section 10(a) of the Federal Power Act, authorizing the Commission to approve plans for hydroelectric projects in a waterway for improvement of fish and wildlife enhancement and other beneficial public uses and to modify such proposals before approving them. (*Id.* at **60-61.)

[80] *Id.* at **79-80.

by Hetch Hetchy reservoir.[81] Accordingly, Examiner Hall required the Districts to develop a master plan, subject to the Commission's approval, for recreational use of the New Don Pedro reservoir and to acquire additional lands for recreation, fish and wildlife purposes, and that CCSF should share in paying for these facilities.[82]

The examiner's Initial Decision was submitted to the Commission. The Districts, the State of California, the Secretary of the Interior and the Commission staff filed exceptions.[83] The license was issued and further disputes were carried forward into the courts. By the time the Ninth Circuit Court of Appeals reviewed the matter, in 1965, the issues had been winnowed down to whether the license requirement for maintaining certain minimum stream flows in the Tuolumne River at La Grange Bridge for fish run purposes was a proper condition.[84] The Court held that it was. In so holding, the Court of Appeals rejected the Districts' argument that nothing in the Federal Power Act should be construed to modify or repeal any Raker Act provisions, and that the fish flow requirement would impermissibly impair their irrigation water rights protected by the Raker Act. The Court said that the Districts could continue to receive their Raker Act flows "as long as they are content with their present facilities. That act did not give them the right to use the public lands they now wish to utilize in connection with the New Don Pedro project. With regard to those public lands, the districts are in the same position as any other applicant for a license -- if they are to use those lands they must accept the reasonable restrictions and obligations attached thereto."[85] At the time the Commission must reevaluate the fish releases, the Court held that the Commission could impose "burdens upon the districts warranted by the benefits derived by San Francisco on the assumption that the latter will reimburse the districts for any such expenditures."[86] Consistent with the examiner's Initial Decision, the Court required CCSF and the Districts to enter into an agreement making clear their respective rights and obligations and further, that the Districts would be entitled to reimbursement from CCSF for the burden of any fish releases the Commission would require in the future.[87]

D. Contract Law - The Four Agreements

In the period following passage of the Raker Act, the Districts and CCSF found it generally possible to "live together in a common sense way."[88] By coordinating their activities, the parties were able to "maximize the quantity of water each [was] able to appropriate."[89]

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81 *Id.* at **88-89.
82 *Id.* at *113.
83 *State of California v. Federal Power Commission* (1965) 345 F.2d 917, 921.
84 *Ibid.*
85 *State of California v. Federal Power Commission, supra*, 345 F.2d at p. 924.
86 *Id.* at p. 930.
87 *Id.* at p. 929.
88 Initial Decision, *supra*, 31 F.P.C. at p. 548.
89 *Ibid.*

1. First Agreement

Nevertheless, in 1933 the Districts became so concerned with the possibility that CCSF's water exports from the Tuolumne River watershed would harm their interests that they filed suit to quiet title to the waters of the Tuolumne River in themselves, and to enjoin the construction of CCSF's "tunnels, pipe-lines and conduits and from carrying away the waters of the Tuolumne."[90] CCSF answered the Districts' Complaint. Following more than six years of negotiations, a settlement was reached when the parties, in February 1940, entered into the "First Cooperative Agreement Between T.I.D., M.I.D. and City and County of San Francisco." The First Agreement, a remarkably simple document, is mainly a truce, or an agreement to agree. Importantly, it also recognizes CCSF's expectations of eventually needing 400 mgd.[91] Additionally, the agreement "recommends" proper conservation of the Tuolumne waters, continued cooperation, and recognition of the Raker Act's applicability.

2. Second Agreement

The Second Agreement (November 1943) referred to the First Agreement, and adopted its twin goals of conservation and cooperation. It set forth the parties' plan to continue developing the Tuolumne River, specifically by building the "Cherry River Project" and the New Don Pedro Project. Additionally, in the final paragraph, the parties agreed to operate "any additional storage"[92] to meet the requirements of domestic water supply, irrigation, power and flood control, "and according to the agreement" of 1940.

3. Third Agreement

With the signing of the Third Agreement six years later, the 400 mgd demand figure was adopted outright. The express purpose of this agreement was "to provide for the storage, management and control of the waters of the Tuolumne River Watershed in such a manner as to assure that water will be available in sufficient quantity to meet the estimated ultimate irrigation requirements of one million one hundred thousand acre feet annually for use by the Districts and the estimated ultimate requirements of City for the diversion of four hundred million gallons daily to the Bay Area . . . ."[93]

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90 Complaint, Bailey Report, *supra*, Appendix A.

91 Paragraph Four of the First Agreement states, in part: "Extensive hydrographic studies . . . indicate that there is sufficient water available from the Tuolumne River watershed *when properly conserved* to meet the ultimate irrigation demands of the Districts as well as the City's estimated demand of 400 million gallons daily for domestic purposes." (Emphasis added.)

92 See Second Agreement, paragraph 4. "Additional storage" probably was limited to the expressly contemplated Cherry Valley Reservoir and New Don Pedro Project.

93 Third Agreement, art. 2.

The Third Agreement adopts the Second Agreement's choice of means for assuring the respective anticipated demands of the Districts and CCSF, that is, to build New Don Pedro and Cherry Valley Dams.[94] The Third Agreement gave to CCSF "the right to intercept, divert and use District Raker Act water in an amount equal to and in exchange for the water actually in storage in New Don Pedro Reservoir for the City's credit."[95] In addition, flood control storage space not required for actual flood control was allocated to the Districts and CCSF on a 50-50 basis.[96] CCSF would pay the primary costs of building New Don Pedro as consideration for the additional exchange storage space it acquired, but the project was to be owned, maintained and operated by the Districts at their expense.[97] The Third Agreement was executed June 30, 1949.

4. Fourth Agreement

Fifteen years later, after lengthy and complex licensing proceedings for the New Don Pedro Dam, and ten years after completion of Cherry Valley/Lake Lloyd, the parties entered into the Fourth Agreement. The Fourth Agreement was required by the Federal Power Commission as a condition of the license for New Don Pedro, a requirement that was confirmed by the Ninth Circuit Court of Appeals.[98] This last agreement expresses that it was intended to "set forth the respective responsibilities of the Districts and the City in the New Don Pedro Project . . . ."[99] It specifically was not "intended to affect, alter, or impair in any manner" the rights of the parties to the Tuolumne River "acquired or existing" under California law.[100] Additionally, the parties agreed to "recognize and abide by" the Raker Act's provisions.[101]

A main purpose of the Fourth Agreement was to allocate the burden of license requirements affecting operation of New Don Pedro in such a way that the Districts' water rights would continue to be protected, as well as assuring that CCSF would receive the benefit of additional storage space in the reservoir.[102] To this end, a "Water Bank Account" was

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94 *Id.* arts. 3-9.
95 *Id.* art. 14.
96 *Id.* art. 13.
97 *Id.* art. 17.
98 *State of California v. Federal Power Commission, supra*, 345 F.2d at p. 929.
99 Fourth Agreement, par. 11.
100 *Id.* art. 2.
101 *Ibid.*
102 *Id.* arts. 5-9.

established.[103] In addition, a formula was created for sharing the responsibilities for water release license conditions for fish purposes below Don Pedro. Those responsibilities may be changed, pursuant to further proceedings before the FERC, where the releases adversely affect the Districts' water entitlements.[104] In such case, the storage credits in New Don Pedro would be recomputed to apportion the burden of the water releases 51.7121 percent to CCSF, and 48.2879 percent to the Districts.[105]

Legally, the Fourth Agreement can be understood as a contractual overlay that enhances full use and enjoyment of their water rights. Developed by CCSF and the Districts to maximize the yield of their respective right to Tuolumne River water, the Fourth Agreement, through the Water Bank mechanism, provides an agreed method for rescheduling releases to and from storage that disregards their relative legal priorities (at times and under agreed specific circumstances). This contractual overlay is not by any means an abandonment of the priority system that is imposed by state law and recognized by the Raker Act and the license for New Don Pedro. Rather, it is a cooperative solution developed in response to the challenges imposed by these laws in combination with such additional constraints as severe fluctuations in Tuolumne River flow and the high cost of new infrastructure.

The New Don Pedro FERC license required reexamination of the minimum fish flow releases after the first twenty years of project operation. Under a 1995 FERC-mediated settlement agreement ("1995 Settlement Agreement") among the Districts, CCSF, Federal and State fish agencies, and environmental groups, the Districts agreed to provide higher minimum fish flows below New Don Pedro. The settlement agreement was made possible because the Districts and CCSF entered into a separate settlement agreement to share the

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103 The Water Bank Account functions as follows:

> CCSF contributed capital to the construction of New Don Pedro for the right to pre-release and subsequently hold back up to 570,000 AF of the District's entitlement between elevations 6000.0' and 801.9' In addition they could store water in the Flood Control Space up to one-half of the 340,000 AF.
>
> CCSF receives a credit to their water bank account when the inflow into Don Pedro exceeds the District entitlement. Since the inflow to Don Pedro is dominated by releases from the Hetch Hetchy Project, CCSF can obtain a credit by releasing a volume of water greater than the natural flow or the entitlement amounts, whichever is less . . . .
>
> CCSF receives a debt to their water bank account when the inflow into Don Pedro is less than the District's entitlement. This occurs when CCSF releases less than the natural flow or the District's entitlement whichever is less.
>
> A maximum of 570,000 AF can be credited by the CCSF in Don Pedro when the reservoir storage is below 1,690,000 AF (elevation 801.9') . . . .
>
> When the reservoir storage is greater than 1,690,000 AF then CCSF can credit their account an additional amount up to one half the difference between the total storage and 1,690,000 . . . . Any credits beyond this total would not be added to the CCSF account . . . .

(TID, Summary of Don Pedro Water Bank Accounting, October 16, 1987.)

104 *Id.* art. 8.

105 *Id.* art. 8(b).

burdens of increased fishery releases from New Don Pedro. This agreement was a further outgrowth of the continued process over the years wherein the Districts and CCSF struggled for control of the resource and ultimately agreed to resolve their differences by agreement. A second Districts-CCSF settlement agreement was entered into to cover the funding of various measures specified in the 1995 Settlement Agreement. These costs were split 51.7121 percent for CCSF, and 48.2879 percent for the Districts, consistent with article 10(c)(2) of the Fourth Agreement.[106]

The First through Fourth Agreements have been a fairly successful attempt to work out means of coexisting and sharing the Tuolumne River. However, predictably, the Districts and CCSF do not always agree on what the agreements say or mean. In California law, the interpretation of contracts is to give effect to the intent of the parties. Discerning this intent requires a ready knowledge of the history of their development of the resource, some of which is set forth above. It is an open question whether there is sufficient flexibility in the agreements to accommodate unanticipated changes such as the future population growth that is projected for both CCSF's and the Districts' service areas in northern California, or consideration of the restoration of Hetch Hetchy Valley. However, the history of their relationship does provide evidence that CCSF and the Districts can work together, as they have in the past, to address changing demands and competing interests.

E. Public Trust Doctrine and the Constitutional Requirement of Reasonable Use

1. Public Trust Doctrine

The public trust doctrine provides that certain natural resources are held in trust by the state for the benefit of the public. Originally a concept from Roman law, the public trust doctrine evolved in English common law to confer upon the sovereign ownership of "all of its navigable waterways and the lands lying beneath them 'as trustee of a public trust for the benefit of the people.'"[107] Upon its admission to the United States, California obtained title to its navigable waters and underlying lands to be held in trust.[108]

The public trust doctrine has been traditionally applied to protect public uses related to navigation, commerce and fisheries.[109] In two seminal cases, the California Supreme Court extended the public trust purposes to include environmental preservation and aesthetics.[110] Although English common law and early American cases assumed that the public trust extended

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106 Agreement on Allocation of Certain FERC Costs Between CCSF and [Districts]; TID Resolution No. 96-12, MID Resolution No. 96-13.

107 *Colberg, Inc. v. State of California ex rel. Dept. Pub. Wks.* (1967) 67 Cal.2d 408, 416, citations omitted.

108 *National Audubon Society v. Superior* Court ("*National Audubon*") (1983) 33 Cal.3d 419, 434, citing *City of Berkeley v. Superior Court* (1980) 26 Cal.3d 515, 521.

109 *Marks v. Whitney* (1971) 6 Cal.3d 251, 259.

110 *Marks v. Whitney, supra,* 6 Cal.3d at pp. 259-260; *National Audubon, supra,* 33 Cal.3d at p. 437.

only to tidal lands, California courts have extended the scope of the public trust resource to all navigable waters and even to nonnavigable waters that affect navigable waters.[111] The California Supreme Court also held that water rights are subject to the public trust doctrine.[112] Moreover, the public trust doctrine implies a duty of continuing supervision and the state is empowered to re-analyze water right allocations.[113]

In the past, California courts have applied the public trust doctrine in ways that significantly affected California's economy and property rights. For instance, it was a public trust doctrine decision of the California Supreme Court in 1884 that ended the California gold rush – a phenomenon that had driven California's economy for the prior forty years.[114] In *Gold Run*, hydraulic miners were diverting the waters of the American River to create high-powered water cannons used to wash away entire hillsides for gold mining purposes. The tailings from these operations went into the American River and were causing several problems, including increased flooding due to the raised riverbed; impairment of navigation, and impacts to water quality to the extent that American River water was no longer fit for domestic consumption.[115] The *Gold Run* court found that these mining operations impaired the public trust values of the American River and, on that basis, banned hydraulic mining. The court's ruling effectively prohibited large-scale gold mining in California. The result of this ruling was the cessation of the Gold Rush and the beginning of California's transformation from a mining economy to an agricultural economy.

One century later, the California Supreme Court again invoked the public trust doctrine in the context of water rights for diversions from non-navigable tributaries to Mono Lake.[116] In *National Audubon*, the court held that water rights were subject to ongoing review under the public trust doctrine. The *National Audubon* decision did not determine whether the Los Angeles Department of Water and Power's ("LADWP") diversions should be reduced. Instead, subsequent proceedings before the State Water Resources Control Board resulted in amendments to LADWP's licenses that significantly reduced the amount of water that may be lawfully diverted from the streams tributary to Mono Lake.

There is no doubt, therefore, that the public trust doctrine must be considered in adopting the Capital Improvement Program ("CIP") and, independent of the CIP, in evaluating the continued use of the Hetch Hetchy Valley as a water impoundment for the benefit of San Francisco.[117] The public trust does not trump other water uses, however, and the State may

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111 *Marks v. Whitney*; *National Audubon*.

112 *National Audubon, supra,* 33 Cal.3d at p. 426.

113 *Id.* at p. 447.

114 See *People v. Gold Run Ditch & Mining Co.* ("*Gold Run*") (1884) 66 Cal. 138.

115 *Gold Run, supra,* 66 Cal. at p. 152.

116 *National Audubon, supra,* 33 Cal.3d at pp. 446-447.

117 Significantly, the land beneath Hetch Hetchy Reservoir is patented land that is owned in fee by CCSF. (Garfield Permit, ¶ 1.)

dispose of public trust resources when it serves the public good.[118] Whether the Raker Act validly disposed of the public trust resources of the Hetch Hetchy Valley is an open question.[119] Separate and apart from the Raker Act provisions, San Francisco's appropriative water rights must also be analyzed through the lens of the public trust doctrine. This analysis should be independent of the analysis of whether the Raker Act contains evidence of the federal government's intent to dispose of the public trust resources within the Hetch Hetchy Valley.

As described above, application of the public trust doctrine to California water rights or other resources involves a balancing of interests and uses.[120] San Francisco and others have long held interests in the waters stored in the Hetch Hetchy Valley and the hydroelectric power generated therefrom. It seems unlikely that any court would interpret the public trust doctrine to require removal of O'Shaughnessy Dam and restoration of the valley if doing so resulted in the unmitigated loss of stored water and power generation for San Francisco. Instead, the balance of interests swings in favor of restoring the Hetch Hetchy Valley only when San Francisco and other interested water and/or power users can be made whole or mostly whole in the process.

2. Article X, Section 2

Article X, Section 2 is an amendment to California's Constitution that applies a reasonableness standard to all California water use, regardless of the nature of the water right. The California Legislature amended the Constitution in 1928 in response to a Supreme Court decision holding that a riparian diverter owed no duty of reasonableness in water use to an upstream appropriator. Subsequent caselaw interpreting Article X, section 2 established that the reasonableness of the water use is evaluated based not only on local competing uses, but also on statewide water conditions.[121] Moreover, reasonableness of a particular use may change over time – what was once a reasonable use of water may become unreasonable at a later date.[122]

The reasonableness requirement of Article X, section 2 applies to the CIP and San Francisco's continued diversion and storage of Tuolumne River water at Hetch Hetchy. In general, diversion and storage of water is not an unreasonable use. Article X, section 2 compels an analysis, however, of the reasonableness of the particular diversion and storage.[123] A party

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118 *Eldridge v. Cowell* (1854) 4 Cal. 80.

119 See *People v. California Fish Co.* ("*California Fish*") (1913) 166 Cal. 576, 597 [where California Supreme Court held that statutes purporting to dispose of a trust resource will be "carefully scanned" for the requisite intent, either clearly expressed or necessarily implied]. Of note, the *California Fish* holding applies to state statutes, not federal statutes like the Raker Act. Nevertheless, federal law also recognizes the public trust doctrine and *California Fish* is likely to be persuasive authority regarding the intent expressed in the Raker Act.

120 See *City of Berkeley v. Superior Court* (1980) 26 Cal.3d 515, 534.

121 See *Tulare Irrigation District v. Lindsey-Strathmore Irrigation District* ("*Tulare Irrigation*") (1935) 3 Cal.2d 489, 524-525; *Joslin v. Marin Municipal Water District* (1967) 67 Cal.2d 132, 140.

122 *Tulare Irrigation, supra,* 3 Cal.2d at p. 567.

123 See *Tulare Irrigation, supra,* 3 Cal.2d at pp. 524-525.

deemed to be diverting, using or storing water in an unreasonable manner can be required to alter its practices and face "some inconvenience or to incur reasonable expenses."[124]

Significant issues surround the reasonableness of continued use of the Hetch Hetchy Valley for water impoundment. Whether San Francisco even needs Hetch Hetchy is probably the most pressing issue. Expanded use of New Don Pedro Reservoir in cooperation with the Turlock Irrigation District and Modesto Irrigation District is a concept that must be analyzed in determining whether San Francisco's continued flooding of Hetch Hetchy Valley remains reasonable, particularly in light of the potential to divert Tuolumne River water downstream, at or near the Delta. Significant issues are also raised by the hydroelectric power generation that may be forfeited if O'Shaughnessy is removed and the valley drained. The impacts to the environment, downstream water users, and the restored Hetch Hetchy Valley also must be considered. Finally, the dollar cost to San Francisco of removing O'Shaughnessy and restoring the valley must be weighed.

IV.
LIMITATIONS ON CCSF'S EXERCISE OF WATER RIGHTS

A. The Physical Limitations – Demand and Supply

1. Demand

Historically, beginning with the Freeman Report, CCSF has clung to its reliance on the Tuolumne River appropriations to meet its projected demand for the larger Bay Area population. CCSF has rarely wavered in its projected demands. This CCSF position, anchored in the Freeman Report's assumption, is maintained by CCSF despite the fact that the East Bay Municipal Utility District, considered within the Freeman Report as part of CCSF's service demand, has developed a separate Mokelumne River supply to meet its demand, and even though the state and federal governments have developed additional storage sites as potential alternatives to the Tuolomne River resource.

A demand of 400 mgd converts to 448 thousand acre feet ("TAF") per year. Combined with the Districts' ultimate demand of 1.1 million acre feet ("MAF"), the Tuolumne must produce 1.5 MAF just to supply these three water users. As the *Meridian* lawsuit attests, there are others reliant on the Tuolumne watershed as well, not including fishery and water quality requirements.[125]

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124 *People ex rel. State Water Resources Control Board v. Forni* (1976) 54 Cal.App.3d 743, 751-752.

125 The SWRCB's computer printouts show some 111 additional water right holders, claiming the right to divert another 478 TAF for the Tuolumne River.

2. Supply

The total present developed supply, gleaned from CCSF and the Districts' combined efforts, yields roughly 1.3 MAF a year for storage and diversion. CCSF estimates that the Hetch Hetchy project yields about 240 mgd or 268.8 TAF annually.[126] The Districts' estimates indicate that CCSF produces between 302 and 317 TAF.[127]

The Districts divert roughly 1 million acre feet per year. In dry years, the Districts have had to rely on carryover storage in Don Pedro, including the water bank water, as well as draw from the groundwater resources. When fishery releases are subtracted, the Districts' supply is severely constrained.[128] The highest storage yield at Don Pedro in one year was 1.3 MAF in 1978, but this was uniquely the result of two critically dry years (1976-1977) followed by a record wet year (1978).

There is not enough developed supply to meet the projected demands of CCSF and the Districts, not to mention others who are reliant on the watershed. If the parties, particularly CCSF, continue to press for their maximum "entitlement," it is apparent that injury to these water rights holders, including riparians, will result, and that litigation will follow. In view of the legal uncertainty of application of principles such as prescription on existing priorities, diligence, and the public trust doctrine, as well as expanding environmental protections, neither CCSF nor the Districts can rest assured that the Tuolumne River will be able to meet their needs in full indefinitely.

B. CCSF's Diligence Requirement

Perfection of an appropriative water right requires that water be actually put to reasonable beneficial use with the exercise of due diligence. While CCSF may claim a right of up to 400 mgd, it may not have maintained that right if it does not have the current capacity to divert this quantity or if it has not, in fact, done so in the past. This argument, if pursued, would become more potent over time. In essence, it is that CCSF cannot expand its current exports, or perhaps even continue its current diversions from Hetch Hetchy, because it failed diligently to bring to completion facilities needed to fully protect the right. There are statutory and judicial exemptions from the diligence requirement. Cities could postpone development of water and power that was not immediately needed.[129] Also, an appropriator

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126 SWRCB D-1630 Transcript, WRINT, S FRISCO, Exh. No. 1.

127 See R. W. Beck's April 1992 analysis, "Don Pedro Project - Reservoir Operations report - FERC Article 39, Project 2299" at pp. 4-9, 10.

128 The settlement agreement between the Districts and CDFG assigns 15-16 percent of the current year's inflow to the Tuolumne River's minimum instream flows. (Testimony of Ernest Geddes before SWRCB, Interim Water Rights Phase of Bay-Delta Hearings, D-1630 Transcript, WRINT-TID/MID 2, at p. 9; 1992 Settlement Agreement, App. A, at pp. 12-17.)

129 Civil Code section 1416.

who steadily pursued a long-term plan of development could be protected from the requirement to immediately put the full claimed quantity of water to beneficial use.[130]

The courts today are inclined to take a less tolerant view of cities that fail diligently to put their appropriations to beneficial use. In *Cal-Trout, supra*, 207 Cal.App.3d 585, the Third District Court of Appeal had to decide whether the City of Los Angeles, through its Department of Water & Power, could expand its water exports from Inyo and Mono counties by "extensions" of its permits to appropriate water obtained in 1953. Although the *Cal-Trout* opinion is factually distinguishable because it does not involve pre-1914 rights, the policy on which the decision is grounded is just as applicable to the case against CCSF's expansion.

Los Angeles sought to excuse its failure promptly to develop and use its full appropriation, and thereby escape the liability for releasing fishery flows that would accompany a later-acquired permit, by arguing that it could not have diverted more when the appropriation was initiated.[131] The court rejected Los Angeles' argument, saying "[t]he logical extension of L.A. Water and Power's legal theory would permit an appropriator of water from a complex of sources to lock up artificially high 'vested' water rights from each of the sources by manipulating the sources from which it elected to draw its water levels despite the inability to apply such waters to beneficial use. *Such cold storage is not permitted by law.*"[132] The court went on to observe that if Los Angeles had simply constructed its first phase of the diversion under a permit issued in the 1950's, and then returned to the SWRCB for a new permit in the 1980's to construct the next phase, there would have been "no plausible claim of retroactivity" to support its argument in favor of its vested right for an increased diversion. The court stated that Los Angeles' conduct had allowed the original permit process "to tarry interminably and then [be] improperly employed to authorize a new project, which required a new permit, under the guise of 'extending' the original project."[133] Finally, the court noted that the "extensions" were unjustified under the pertinent statutes "calling for diligence in the completion of water projects."[134] Thus, the expansion would undermine the priority system and contravene diligence requirements.

The similarities between *Cal-Trout* and CCSF's potential expansion of its diversions from the Tuolumne River are striking. CCSF's apparent inability to divert more than 300 mgd is unrelated to the variant flow of the Tuolumne River. Instead, it is purely the result of CCSF's failure initially to develop more capacity for transporting water across the San Joaquin Valley. CCSF, like Los Angeles, is a municipality, yet the court found Los Angeles was not excused from the statutory diligence requirements. While CCSF's appropriations are

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130 *Haight v. Costanich* (1920) 184 Cal. 426, 432.
131 *Cal-Trout, supra,* 207 Cal.App.3d at p. 618.
132 *Ibid.*, emphasis added.
133 *Ibid.*
134 *Ibid.*

pre-1914 appropriations and Los Angeles derived its right from a state-issued permit, this distinction could well not make any difference. Both appropriations are required to be completed with diligence, and the pertinent municipal exemptions from diligence are substantially similar.

Additional support for holding CCSF to its current level of diversions on the basis of failure to diligently develop the Hetch Hetchy project to completion can be found in the Raker Act. This requirement, imposed by Congress, is independent of and in addition to California law. The Raker Act imposes a forfeiture provision that would apply if CCSF lapsed in constructing the project for more than three years, unless the lapse were due to reasons beyond CCSF's control.[135]

In summary, it appears that the diligence requirement could interfere with CCSF's attempt to expand diversions from the upper Tuolumne River beyond the current rate of 300 mgd. It is uncertain whether the bar would extend to existing diversions from Hetch Hetchy that have been undertaken by CCSF over the years, with delays in development that exceeded the three years allowed by the Raker Act. This consideration is, of course, further complicated by various water quality requirements imposed over time, including those associated with South Delta salinity, dissolved oxygen, TMDLs, salt, boron and others.

C. Change Point of Diversion

California's system of prior appropriations dictates that the oldest right on the river (along with riparians) has the right to the first portion of the available water, with what remains being available to the junior appropriators in order of their notice or permit. Both CCSF and the Districts rely on pre-1914 appropriations for their water rights. The Districts' Tuolumne River rights are senior to CCSF's. The priority system allows the Districts to divert their entire appropriation before San Francisco may take even one drop of water from its appropriation.

The Raker Act also requires CCSF to operate its Hetch Hetchy system in a manner that recognizes the Districts' prior rights. Section 9 of the Raker Act imposes a duty on San Francisco to protect the Districts' "prior rights . . . [to the extent of 2,350 cfs of the Tuolumne's natural flow] . . . as now constituted under the laws of the State of California, or as . . . may be hereafter enlarged."[136] CCSF must also release an additional quantity of water from April 15 through June 15 annually (up to 4,000 cfs of the Tuolumne's natural flow) for the Districts to store in their reservoirs below Jawbone Creek.[137]

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135 38 Stat. 244-245, § 5.
136 38 Stat. 246, § 9(b).
137 38 Stat. 246, § 9(c).

Presently, San Francisco obtains nearly 300 mgd from the upper Tuolumne River. An expansion of this to 400 mgd presumably would injure the Districts (or perhaps others) in many years. Application of the priority rules may restrict CCSF's diversions from the upper Tuolumne to their present diversion rate of about 300 mgd. If the Districts suffered injury by CCSF's *existing* diversions, as in periods of drought, either the Raker Act or California's priority system could restrict CCSF diversions. Such constraints might be avoided if CCSF were to change its point of diversion to a location downstream of the Districts and other senior water rights holders. Likewise, if CCSF constructed an intertie to divert water from New Don Pedro to the conveyance facilities that run beneath the reservoir, this change in place of diversion could add flexibility to operations that would avoid similar constraints. Such a facility would, of course, need to be approved by the Districts, who are the sole owners of the New Don Pedro facilities and of all water stored therein. This approach avoids injuring others while still allowing CCSF to obtain its full claimed entitlement.

Changing the point of diversion has always been permitted in the appropriation system. The earliest authority is *Kidd v. Laird* (1860) 15 Cal. 161. *Kidd* held that a change in "mode and objects of use" is justifiable, so long as alterations "shall not be injurious to those whose interests are involved."[138] Civil Code section 1412 (now Water Code section 1706) codifies the rule announced in *Kidd*. Later judicial refinements have clarified that either a change in point of diversion or means of diversion is allowed for pre-1914 appropriations, provided that no injury is dealt to others with vested water rights.[139] Thus, CCSF is plainly entitled to alter its point of diversion for any portion of its pre-1914 entitlement to 400 mgd, or all of it, so long as there is no injury to senior water rights holders, including the Districts.

D. The Raker Act Conditions Development of Available Supplies

The Raker Act requires San Francisco to first develop and use its own resources before exporting Tuolumne River supplies. It states that CCSF may not export from beyond the San Joaquin Valley any more water of the Tuolumne watershed "than, together with the waters which it now has or may hereafter acquire, shall be necessary for its beneficial use for domestic and other municipal purposes."[140] This Raker Act condition may effectively bar expansion of CCSF's exports, and may require CCSF to curtail its current diversions until it can demonstrate that it has developed such local resources. As stated previously, nothing in the Raker Act indicates that the duty to develop such available resources was fixed to end at a definite time.

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138 *Id.* at pp. 180-181.

139 *Byers v. Colonial Irrigation Co.* (1901) 134 Cal. 553, 554-555; *Craig v. Crafton Water Co.* (1903) 141 Cal. 178, 183; *Hand v. Cleese* (1927) 202 Cal. 36, 45.

140 38 Stat. 247, § 9(h).

In the past, it had been argued that alternative sources, such as the State Water Project or the Central Valley Project, were infeasible for CCSF to rely on due to the constraints of capacity in various elements of the systems, including the South Bay Aqueduct. This may not hold true today. Today, feasibility analysis must take into account the environmental impacts that require mitigation in designing an expansion or otherwise modifying or updating the conveyance system for exporting Hetch Hetchy supplies. These environmental considerations may weight the feasibility analysis against expansion, modification or updating, and in favor of other alternatives. Furthermore, recycling, desalinization and wastewater recovery are increasingly available today, are independent of the Tuolumne River supply altogether and, therefore, must also be evaluated as elements to the expansion, modification or updating of CCSF Hetch Hetchy facilities. Thus, alternatives may exist that were perceived to be unavailable previously.

The Raker Act authorizes enforcement of its provisions by federal agencies. It provides: "[I]n the exercise of the rights granted by this Act, the grantee [CCSF] shall at all times comply with the regulations herein authorized, and in the event of any material departure therefrom the Secretary of the Interior or the Secretary of Agriculture, respectively, may take such action as may be necessary in the courts or otherwise to enforce such regulations."[141] Thus, unless CCSF were able to demonstrate that it had fully developed local resources, it could be prevented from diverting existing or expanded water supplies from Hetch Hetchy by the agencies having such enforcement power under the Raker Act.

CCSF has had to defend its actions against Raker Act violations in the past.[142] CCSF also received a clear warning in the Federal Power Commission Examiner's Initial Decision, 31 F.P.C. at page 547, where Examiner Hall observed, "Congress never intended the Raker Act . . . to be a grant without limitation."[143]

E. Storage in Don Pedro

CCSF's right to exchange storage in Don Pedro Reservoir derives from contract. (See Fourth Agreement Between the City and County of San Francisco and the Turlock Irrigation District and the Modesto Irrigation District, dated 1966 ("Fourth Agreement.") In some respects the provisions of this Fourth Agreement have been incorporated into relevant District water rights before the SWRCB and FERC. Obligations with respect to some of its provisions have been modified pursuant to subsequent agreements and regulatory agency actions.

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141 38 Stat. 244-245, § 5.

142 See *United States v. City and County of San Francisco, supra,* 310 U.S. 16 [the right of way grant was conditional use of power for municipal purposes].

143 Initial Decision at p. 547.

Under Article 7 of the Fourth Agreement, CCSF releases water from its upstream facilities at times when, pursuant to its water rights, it is not obligated to make releases. An accounting record is kept of the quantities of waters released and subsequently stored within Don Pedro Reservoir. These quantities are "deposited" in CCSF's "bank account" within Don Pedro.

CCSF has absolutely no right to physically withdraw water from Don Pedro Reservoir. CCSF "withdraws" water from this bank account by diverting water upstream that otherwise would flow to the Districts under their senior water rights. CCSF may withhold these flows in quantities not to exceed CCSF's storage credit in Don Pedro Reservoir. The Districts, in turn, use the CCSF stored water in Don Pedro Reservoir to replace water that CCSF would otherwise be obligated to release to meet the Districts' senior water rights.

The Fourth Agreement thus allows CCSF to maximize its operational flexibility with respect to diversion and conveyance of water from the upper Tuolumne River. At the foundation, however, is the assumption that Hetch Hetchy is being operated as the major CCSF storage facility on the upper Tuolumne River. If Hetch Hetchy Reservoir no longer existed and CCSF wanted rights to divert water or physically store water in Don Pedro Reservoir, then CCSF would need to renegotiate the Fourth Agreement or negotiate a new agreement with the Districts. Likewise, because the Fourth Agreement was submitted to the FERC for approval as part of the hydroelectric licensing process for New Don Pedro, corresponding amendments may have to be made to the FERC license.

The water bank, utilizing releases from O'Shaughnessy Dam, also creates flexibility and reliability for the Districts and CCSF. Without Hetch Hetchy Reservoir, there would be a reduction of flexibility in the Hetch Hetchy system. According to a recent study, if an intertie were added to connect the lower Hetch Hetchy Aqueduct with New Don Pedro, additional conveyance capacity could be added to the system to bring the lower aqueduct to capacity and reduce the impact on water supply. Remaining storage in the upper Tuolumne River facilities would remain unchanged. [144]

V.
CEQA AND NEPA: THE ANALYSIS OF ALTERNATIVES

CCSF acknowledges that the existing conveyance facilities are not sufficient to contain increased flows from expanded exports of water from Hetch Hetchy. It will have to expand its pipeline system across the San Joaquin Valley if it is to deliver a greater quantity of water from the Hetch Hetchy system. Even a capital improvement program relative to existing facilities may result in increased availability of water to the Bay Area, with attendant

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144 Null, *Re-Assembling Hetch Hetchy: Water Supply Implications of Removing O'Shaughnessy Dam* (2003) U.C. Davis MA Thesis at p. 29.

growth inducing and cumulative impacts. Such actions, being discretionary, will necessitate environmental documentation prepared in accordance with the requirements of CEQA[145], and NEPA[146].

The desire to expand, improve or otherwise update or modify CCSF's facilities for export of Tuolumne River water raises a number of other issues. Such activities might injure public trust and/or environmental resources. CCSF must consider alternatives to its existing upstream diversions, such as the diversion of water downstream within the system (the Delta). A diversion at a downstream location would avoid any upstream harm to public trust values and environmental resources while still allowing water to be put to reasonable beneficial use by CCSF. Proceeding in this manner would also maximize the reasonable beneficial use of water as required by Article X, Section 2 of the California Constitution by allowing water to flow through the entire Tuolumne and San Joaquin River systems to serve public trust and environmental purposes and still be diverted for CCSF's purposes.

This result would seem to be compelled by *National Audubon, supra*, dealing with Mono Lake, and the Lower American River trial court decision in *Environmental Defense Fund, Inc. v. East Bay Municipal Utility Dist.*, Alameda County Superior Court, No. 425,955. If the public trust and environmental values of Mono Lake and the Lower American River would justify this result, the benefit associated with Hetch Hetchy Valley, within a National Park, would seem to compel, at the very least, an analysis of this alternative.

VI.
RAKER ACT PUBLIC POWER REQUIREMENTS

A. Sale to San Francisco

The Raker Act explicitly requires CCSF to "develop and use hydroelectric power for the use of its people . . . ."[147] Further, the Raker Act prohibits CCSF from selling Hetch Hetchy electricity to a corporation or individual for resale.[148] The CCSF power supply requirements have been the source of significant political and legal conflict since their

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145 Public Resources Code section 21000 et seq.

146 42 U.S.C. § 4231 et seq.

147 38 Stat. 248, § 9(m).

148 The Raker Act provides, in section 6, that CCSF is prevented "from ever selling or letting to any corporation or individual, except a municipality or a municipal water district or irrigation district, the right to sell or sublet the water or electric energy sold or given to it or him by the said grantee; *provided*, That the rights hereby granted shall not be sold, assigned, or transferred to any private person, corporation or association, and in case of any attempt to so sell, assign, transfer, or convey, this grant shall revert to the Government of the United States." (38 Stat. 245, § 6.)

inception.[149] This conflict generally focuses on the fact that CCSF has never developed its own infrastructure to directly deliver power to its residents.

Despite Congress' intent that CCSF would supply publicly generated power directly to the citizens of San Francisco and areas within the Districts, CCSF voters, over the years, rejected six separate bond measures that would have financed construction of the power infrastructure necessary for CCSF to directly supply electricity. After initially and unsuccessfully attempting to sell power to PG&E,[150] and after the six rejected infrastructure bond measures, CCSF now "wheels" power through PG&E facilities to CCSF's customers. Due to the Ninth Circuit's ruling in *Starbuck*, the wheeling agreement may only be challenged by a small number of parties, including the Secretary of Interior and, potentially, the Districts.[151]

The Raker Act gives the Secretary of the Interior the authority to require additional power production and supply by CCSF.[152] This decision is in the sole discretion of the Secretary of Interior.[153] CCSF's failure to comply with a request from the Secretary of the Interior to increase power production would empower the Secretary to revoke the right-of-way underlying the Hetch Hetchy system.[154]

B. Sale to Districts

The Raker Act also provides that CCSF must "sell or supply" electricity to the Districts or any municipality within the Districts on two conditions: (i) CCSF has electricity in excess of its demand for "actual municipal purposes"; and (ii) the electricity sold or supplied is used for "pumping subsurface water for drainage or irrigation" or for "actual municipal public purposes."[155] [156] Congress intended that the revenues generated from the sales of power would help to defray the costs of constructing the Hetch Hetchy project.

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149 See, e.g., *United States v. City and County of San Francisco, supra,* 310 U.S. at p. 28 [where the court found that CCSF's sale of electricity to PG&E violated the Raker Act]; *Starbuck v. City and County of San Francisco* (9th Cir. 1977) 556 F.2d 450 [where San Francisco residents unsuccessfully challenged CCSF's electricity "wheeling" agreement with PG&E].

150 In 1940 this arrangement was rejected by the court in *United States v. City and County of San Francisco, supra,* 310 U.S. at p. 28.

151 See *Starbuck, supra,* 556 F.2d at p. 457.

152 38 Stat. 249, § 9(n).

153 *Ibid.*; see also *United States v. City and County of San Francisco, supra,* 310 U.S. at pp. 29-30.

154 See *id.* at p. 30.

155 38 Stat. 248, § 9(l). TID, at least, asserts strongly that electricity in "excess" of San Francisco's needs is to be sold to TID, MID and municipalities within the two Districts, and that determining what is excess to the "actual municipal public purposes" of the "grantee" does *not* include electricity required for those purposes by CCSF's wholesale water supply customers.

156 The Raker Act states, in pertinent part:

> That the said grantee shall, upon request, sell or supply to said irrigation districts, and also to the municipalities within either or both said irrigation districts, for the use of any land owner

Footnote continued on following page.

C. Raker Act Requirements for Power Production

The Raker Act is fundamentally a public power act, as recognized in the FERC Examiner's Initial Decision on the New Don Pedro hydroelectric license, which characterized the Raker Act as the precursor of the Federal Power Act. The Raker Act's requirement for CCSF to develop power out of the Hetch Hetchy facilities that is purely public in character was a key justification for the congressional authorization of the right-of-way grant within Yosemite National Park. Although in the aftermath of the 1906 San Francisco earthquake CCSF itself was moved to pursue the Hetch Hetchy project to secure a more stable water supply, Congress, in 1914, saw the right-of-way grant as an opportunity for introducing cheap public power into the California market.[157] As a consequence, the act requires CCSF to produce power as a condition of the right-of-way grant.

The Raker Act imposes as a legal condition of the right-of-way a requirement that CCSF will develop hydroelectric power and make it available to the public, utilizing the Hetch Hetchy Project facilities. If CCSF elected to restore the Hetch Hetchy Valley, it would still be required to produce power from the Tuolumne River and sell it to municipal customers or the Districts to the extent its facilities still occupied other lands within the Park boundaries. Without releases from Hetch Hetchy Reservoir to be turned into the Kirkwood Powerhouse, CCSF would have to rely on the other reservoirs and powerhouses in its upper Tuolumne River development to meet the Raker Act's public power requirement, or else withdraw entirely from the Park, based on the reversion contained in section 6 of the Raker Act.

In sum, the public power conditions that Congress imposed in making its Yosemite Park right-of-way grant are significant constraints on CCSF's operation of the Hetch Hetchy project. Thus, even though the need for water was CCSF's initial purpose behind developing the Hetch Hetchy project, as part of the bargain that water supply now depends on its ability to continue to generate power for its citizens and municipal uses in San Francisco, as well as

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> or owners therein for pumping subsurface water for drainage or irrigation, or for the actual municipal public purposes of said municipalities (which purposes shall not include sale to private persons or corporations) any excess of electrical energy which may be generated, and which may be so beneficially used by said irrigation districts or municipalities, when any such excess of electric energy may not be required for pumping the water supply for said grantee and for the actual municipal public purposes of the said grantee (which purposes shall not include sale to private person or corporation) at such price as will actually reimburse the said grantee for developing and maintaining and transmitting the surplus electrical energy thus sold; . . .

38 Stat. 248, § 9(l).

[157] Picker, et al., *supra,* at pp. 1313-1314, citing H. Schussler, *The Water Supply of San Francisco, California, Before, During and After the Earthquake of April 18th* (1908) at p. 14.

in the Districts. CCSF must carefully balance any decision to remove its facilities from Hetch Hetchy Valley against this requirement.

VII.
CONCLUSIONS

A. Water

The rights and interests of CCSF and the Districts are intertwined, and probably impossible to separate. Together the Districts and CCSF have been through nearly a century of competition, of mutual reliance and agreements, of challenge and accommodation, of facing common threats, and of meeting new demands. The legal battles that have been endured have created a platform or foundation of expectations and promises that will continue to guide future responses to challenges that emerge. The long history of conflicts, culminating in agreements and compromises, provides a basis for continuing to work toward a common goal. If it is successfully asserted that Hetch Hetchy Valley should be restored, then CCSF and the Districts will be faced with the development of new means of meeting this challenge to CCSF's water rights and power producing capability. Alternatives may well exist, both physical and legal, and may be developed with enlightened guidance and historical perspective.

B. Power

The Raker Act requires CCSF to develop public hydroelectric power as a condition of the right-of-way Congress granted for the Hetch Hetchy project. Congress intended that the public should benefit from the right of way in this specific way. In the decades following the Raker Act, both the Districts and CCSF have enjoyed benefits from having power available from Hetch Hetchy.

But a great deal has changed in California's current electricity market and regulatory environment, much of which Congress could not have anticipated when it enacted the Raker Act or granted the license for New Don Pedro. Transmission wheeling and direct sales in a competitive commodities-style market were unheard of then, and their entry into the modern legal landscape may need to be considered. In any case, it is clear from the background of legislation, licensing and agreements regarding these matters that the public power conditions imposed on the right-of-way have been a guiding principle for CCSF. Future development of Hetch Hetchy hydroelectric facilities, or removal of them from Hetch Hetchy Valley, must be undertaken consistent with that historical commitment.

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Restore Hetch Hetchy Comments on SWRCB Lower San Joaquin River SED
March 29, 2013
Appendix A

Charts below show (note changes in scale):

1. Daily unimpaired Tuolumne River flows, February-June, 1971-2009,
2. Water rights allocation between San Francisco and the Turlock and Modesto Irrigation Districts, and
3. State Board proposed instream flow requirements: 35% of 14-day average unimpaired flow.

Table 1:
Breakdown of SWRCB 35% Flow Objective by Year Type
(acre-feet)

	State Board Flow Proposal	Districts' Share SWRCB Proposal	San Francisco Share SWRCB Proposal	San Francisco Percent of SWRCB Proposal
All Years	498,322	463,537	34,804	7%
Wet	742,300	651,232	91,068	12%
Above Normal	560,891	553,287	7,604	1%
Below Normal	447,955	439,238	8,717	2%
Dry	353,281	352,766	515	0%
Critical	252,215	250,905	1,379	1%

Figure A-1: (water year 1971)
Tuolumne Water Rights Distribution and SWRCB Proposed Flow Requirements
(flows in cubic feet per second)