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State Water Resources Control Board

Division of Water Rights

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Gray Davis
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MAY 12 2003

TO: American River Fully Appropriated Streams Petition
Hearing Mailing List

DRAFT ORDER DENYING PETITION TO REVISE THE DECLARATION OF FULLY APPROPRIATED STREAMS TO ALLOW PROCESSING OF APPLICATIONS TO APPROPRIATE TREATED GROUNDWATER DISCHARGED INTO THE LOWER AMERICAN RIVER

I enclose a draft order regarding Southern California Water Company's Petition to revise the Declaration of Fully Appropriated Streams to allow processing of applications to appropriate treated groundwater discharged into the Lower American River. The State Water Resources Control Board (SWRCB) will hear comments on the draft order at its workshop on Tuesday, July 1, 2003. The SWRCB will notify you of the location and specific time of the workshop approximately ten days prior to the workshop. This information will also be posted on the SWRCB's website at www.swrcb.ca.gov. Click on "Board Business" and then on "Agendas."

Each person or party will have the opportunity to comment on the draft order at the SWRCB workshop. All presentations should be limited to 5 minutes. Comments should be limited to the general acceptability of the order or possible technical corrections. Parties may not introduce evidence at the SWRCB workshop. Parties should submit in writing any comments or changes to the proposed order they would like the SWRCB to consider at the workshop. All written comments should be **received** by the SWRCB by **noon on Thursday, June 12, 2003**. Written submittals should be addressed to:

Edward C. Anton, Division Chief
State Water Resources Control Board
P.O. Box 2000
Sacramento, CA 95812-2000

Written comments may also be faxed to Mr. Anton at (916) 341-5400, or delivered to the following address:

Division of Water Rights
State Water Resources Control Board
Cal/EPA Headquarters
1001 "I" Street, 2nd Floor
Sacramento, CA 95814-2828

MAY 12 2003

Couriers delivering comments must check in with the Visitor and Environmental Services Center, located just inside and to the left of the building's public entrance, and have them contact Division of Water Rights mail room, second floor (341-5421). The mail room will receive and date stamp comments. Any faxed items must be followed by a mailed or delivered hard copy with original signature.

If you have any questions regarding this notice, please contact Jean McCue, Water Resource Control Engineer, at (916) 341-5351 or Samantha Olson, Staff Counsel, at (916) 327-8235.

Sincerely,

for James W. Kassel
Edward C. Anton
Division Chief

Enclosures

LIST OF INTERESTED PARTIES

Hearing on Petition To Revise Declaration of Fully Appropriated Stream Systems Regarding the
American River, Sacramento County

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DRAFT

STATE OF CALIFORNIA STATE WATER RESOURCES CONTROL BOARD

ORDER WRO 2003 - XXXX

In the Matter of
**PETITION OF SOUTHERN CALIFORNIA WATER COMPANY
TO REVISE THE
DECLARATION OF FULLY APPROPRIATED STREAMS
TO ALLOW PROCESSING OF APPLICATIONS
TO APPROPRIATE TREATED GROUNDWATER
DISCHARGED INTO THE LOWER AMERICAN RIVER**

SOURCE: AMERICAN RIVER

COUNTY: SACRAMENTO

**ORDER DENYING PETITION TO REVISE THE DECLARATION OF FULLY
APPROPRIATED STREAMS TO ALLOW PROCESSING OF APPLICATIONS TO
APPROPRIATE TREATED GROUNDWATER DISCHARGED INTO THE LOWER
AMERICAN RIVER**

BY THE BOARD:

1.0 INTRODUCTION

The State Water Resources Control Board (SWRCB) has adopted and periodically revised a Declaration of Fully Appropriated Streams (Declaration) pursuant to Water Code sections 1205 through 1207, most recently updated on November 19, 1998. (SWRCB Order WR 98-08.) The Declaration includes a list of stream systems found to be fully appropriated for all or part of the year. It lists the American River stream system as fully appropriated from July 1 through October 31 from the confluence of the Sacramento River upstream, pursuant to several water right decisions issued from 1958 to 1964, and year round pursuant to the California Wild and Scenic Rivers Act. In addition, the American River is tributary to the Sacramento-San Joaquin Delta, a stream system listed as fully appropriated from June 15 to August 30. Water Code section 1206 provides that the SWRCB shall not accept any new applications to appropriate water from watercourses listed on the Declaration, except in accordance with the provisions of the Declaration and applicable regulations.

Southern California Water Company (SCWC), operating as Arden Cordova Water Service, is a domestic water supplier for the Rancho Cordova area in Sacramento County. On November 8, 2001, SCWC submitted a petition and supporting information requesting that the SWRCB revise the Declaration to allow for acceptance and processing of an application to appropriate water discharged by Aerojet-General Corporation (Aerojet) into the American River. SCWC submitted an application to accompany its petition on January 18, 2002. The SWRCB retained the proposed application but stayed acceptance of the proposed application pending the resolution of the fully appropriated streams petition.

The Chief of the Division of Water Rights (Division) concluded that there was reasonable cause to conduct a hearing on the question of whether the Declaration should be revised to allow for acceptance and processing of water right applications to appropriate treated groundwater that is discharged to the American River. The SWRCB conducted a hearing on SCWC's petition to revise the Declaration on May 31, 2002 and June 13, 2002. At the hearing the SWRCB reviewed whether there were changed circumstances from those considered in previous water right decisions finding no water available. These decisions provided the basis for listing the stream in the Declaration. The purpose of the hearing was not to reach the merits of SCWC's application. Rather, the hearing was limited to determining whether the Declaration should be revised to allow the SWRCB to accept and process water right applications filed to appropriate water added to the American River, in accordance with applicable provisions of Water Code section 1200 et seq. Approval of the petition would simply allow the SWRCB to accept for filing water right applications related to discharges of treated groundwater into the American River and to begin processing SCWC's application.

Based on the evidence in the record and as discussed below, the SWRCB finds that the Declaration should not be revised to allow for processing the water right application submitted by SCWC. This conclusion is based on a finding that the water at issue would not have been available for a new appropriation if the water had been discharged into the American River at the time the decisions were issued that provide the basis for listing the River on the Declaration. Rather, the water would be allocated in order of priority to surface water right holders in the Basin at that time. Thus, even though the petitioner established that a portion of the discharged water is water that was not tributary to the River during the relevant time period, SCWC did not demonstrate that this "new water" would have been available for appropriation at that time. If SCWC amends the season of diversion in its application to exclude the period of July 1 through October 31, the SWRCB could accept SCWC's application for processing in accordance with the normally applicable procedures and requirements under the Water Code and applicable regulations. This order makes no finding regarding the relative priority of any rights that may be acquired under any amended SCWC application or other rights or applications for water rights associated with the treated groundwater discharged into the American River Basin.

2.0 BACKGROUND

Sections 2.1 through 2.3 below discuss the statutory provisions governing the appropriation of water in California, the classification of the American River as fully appropriated, and the SWRCB hearing on the petition to revise the Declaration of Fully Appropriated Streams to allow

for processing water right applications to appropriate groundwater treated and discharged into the American River.

2.1 Water Code Provisions

Since enactment of the Water Commission Act of 1913, new appropriations of water in California have been subject to the application and permitting system now set forth in the California Water Code. (Wat. Code, § 1225.) All water flowing in any natural channel that is not needed to satisfy riparian rights and is not previously appropriated is public water of the State and subject to appropriation in accordance with the provisions of the Water Code. (Wat. Code, § 1201.) Water Code section 1202 defines unappropriated water to include: (a) all water which has never been appropriated; (b) all water appropriated prior to December 19, 1914, which has not been or ceased to be put to beneficial use; (c) all water appropriated after 1914 which has not been or ceased to be put to beneficial use; and (d) water which after having been appropriated or used flows back into a stream, lake or other body of water. (Wat. Code, § 1202.)

Compliance with applicable Water Code provisions is now the exclusive way to establish a right to appropriate water subject to appropriation. The statutory requirements and procedure for establishing an appropriative water right are set forth in Water Code starting at section 1250. Normally, the first step is to file an application to appropriate water that sets forth specified information including the proposed source, proposed quantity and rate of diversion, the proposed point of diversion, and the proposed place and purpose of use. (Wat. Code, §§ 1250, 1260.)

Under Water Code section 1205, the SWRCB may adopt a Declaration of stream systems that are fully appropriated based on finding that previous water right decisions have determined that no water remains available for appropriation. (Wat. Code, § 1205, subd. (b).) Subdivision (a) of Water Code section 1206 prohibits the SWRCB from accepting for filing any application for a permit to appropriate water from a stream system that is listed on the Declaration. Under subdivision (b) of section 1206, the SWRCB may allow for filing of applications to appropriate water from fully appropriated streams under specified conditions set forth in the Declaration. In addition, subdivision (c) of Water Code section 1205 provides:

Upon its own motion or upon petition of any interested persons, and following notice and hearing, the board may revoke or revise a declaration that a stream system is fully appropriated.

In the petition under consideration in the present proceeding, SCWC requests that the SWRCB revise the provisions of the Declaration adopted in Order WR 98-05 to allow for processing water right applications to appropriate treated groundwater discharged into the American River. Approval of the petition would allow the SWRCB to accept applications to appropriate treated discharged groundwater in accordance with the normal applicable procedures and requirements under the Water Code and regulations.

2.2 Findings Regarding the American River in the Fully Appropriated Streams Declaration

The SWRCB has determined that the American River system in Sacramento County is fully appropriated from July 1 through October 31 from the confluence of the Sacramento River upstream. The American River system was included in the original Declaration adopted by SWRCB Order WR 89-25, and it remains listed on the most recent revised Declaration adopted by SWRCB Order WR 98-08. Order 89-25 cites State Water Rights Board (SWRB)¹ Decisions (D) 1108 (1963) and 1211 (1965) for the finding that no unappropriated water is available from the American River system during the season specified. The finding of no unappropriated water available in D 1211 cites previous decisions by the SWRB (D 893 (1958), D 1045 (1961), D 1082 (1962), D 1098 (1962)), finding that downstream existing rights on the American River require the entire flow of the American River during the months of July through October of an average year.² D 1108 relied in part on previous decisions by the SWRB (D 893, D 990 (1961), D 1082, D 1098) in finding no unappropriated water available from June 15 through October from the Delta upstream.³

Order 89-25 provides that a stream system listed on the Declaration encompasses all upstream sources contributing to the listed stream system. In addition, if a tributary stream system and a downstream stream system to which the tributary contributes are both declared fully appropriated, the declaration containing the more restrictive conditions should govern the

¹ In 1967 the California legislature passed a law that combined the State Water Rights Board and the State Water Quality Control Board to form the present State Water Resources Control Board. Decisions prior to 1967 were issued by the SWRB.

² D 893 requires releases of water from Folsom Dam to provide for various needs on the lower American River, including fish flows, downstream diversions on the lower reach of the American River, and Sacramento-San Joaquin Delta salinity control. D 893 limited diversions from the American River to exclude the summer months from August to October except for power use based on the finding that unappropriated water is not available. (See Term 10.)

D 1045 excluded from the approved diversion season the months of July through August, relying on the evidence submitted in the hearing that resulted in D 990. "The evidence in support of D 990 discloses that the pre-1954 rights and USBR's requirements in the Sacramento Basin will require all additional return flows made available by the CVP, and accordingly, water is not available during certain periods of time." (D 1045 at 11.)

D 1082 finds that "[c]onsumptive uses on the American River below Folsom Dam and in the Delta and water for fish conservation and Delta salinity control require the full flow of the American River during the months of July through October." (D 1082 at 3.)

D 1098 excluded from the authorized diversion season the months of July through October, relying in part on D 893 and D 990. D 1098 added the month of July to the restricted season for the American River based on water unavailable in the Sacramento River and the American River being tributary to it.

³ D 990 grants a year-round direct diversion season to the USBR from the Sacramento River and the Delta. The amount of water determined in the Decision to be available for appropriation was based on studies conducted by the DWR and the USBR. The studies assume a certain amount of water is necessary to satisfy prior right holders. The decision notes that these assumptions were based on water right claims and that the amount of water that the claimants are actually entitled to would likely be considerably different if the claims were adjudicated.

tributary stream system if, and to the extent that, the tributary is hydraulically continuous to the downstream system. (Order 89-25 at 38-39; Order 98-09 at 21.) The Sacramento-San Joaquin Delta is listed on the Declaration as fully appropriated from June 15 to August 31 pursuant to SWRCB D 1594 (1983-84). Consistent with D 1594, the Declaration specifies that diversions from the Delta and from its tributaries that are less than one cubic foot per second (cfs) or less than 100 acre-feet per year (afa) of storage are not allowed from June 16 to August 31.

Diversions greater than that amount are usually processed and the Division may issue permits subject to the inclusion of Standard Permit Term 91 (Term 91)⁴ in the permit. The American River is hydraulically continuous to the Delta and therefore, the restrictions on diversions from the Delta and its tributaries should apply.

The Lower American River, from Nimbus Dam to its junction with the Sacramento River, is protected throughout the year under the California Wild and Scenic Rivers Act. (Pub. Resources Code § 5093.51 to 5093.70.) "No application which proposes an appropriation of water in connection with construction of a dam, reservoir, or other water impoundment facility on any river designated in Public Resources Code section 5093.54 will be accepted for filing." (Cal. Code of Regs., tit. 23, § 734, subd. (a).) In accordance with California Code of Regulations, title 23, section 734(c), the SWRCB may accept for filing an application to appropriate water in connection with construction of a water diversion facility on any river designated in Public Resources Code section 5093.54, other than a dam, reservoir, or other water impoundment facility, "[p]rovided, no permit is issued on any such application unless the Secretary of the Resources Agency first determines (1) that such facility is needed to supply domestic water to the residents of the county or counties through which the river flows and (2) that such facility will not adversely affect its free-flowing condition or natural character. Such determination shall be in addition to other findings which the board is required by law to make." "No permit shall be issued if the board finds that the appropriation would impair the extraordinary scenic, recreational, fishery, or wildlife values of any such designated river." (Cal. Code Regs., tit. 23, § 734, subd. (b).) The effects of any proposed diversion on the wild and scenic status of the lower American River will be addressed if and when any application is processed by the SWRCB. Should SCWC choose to amend its application for the season specified in this order, SCWC must also obtain the requisite findings from the Resources Agency and the SWRCB regarding the wild and scenic status of the American River.

The findings required for this hearing on whether to revise the Fully Appropriated Streams Declaration focus on whether there are changed circumstances from when the stream was listed in the Declaration. Even though the SWRCB adopted the first Declaration in 1989, the relevant time period for our inquiry is 1958 through 1964, when the decisions were issued that provide the basis for the Declaration (hereinafter referred to as "the relevant time period" or "decisions supporting the Declaration"). Therefore, appropriate testimony for this hearing included limitations, including environmental terms and conditions, on water right holders that existed during the relevant time period. This type of testimony should be distinguished from testimony

⁴ Term 91 was developed in response to the requirements imposed on the Central Valley Project and State Water Project pursuant to D 1485. (D 1594, pp. 7-9.) Term 91 is imposed to prevent water released from storage by the Central Valley Project and State Water Project to meet water quality objectives and other inbasin uses from being diverted by other appropriators. It serves to resolve most of the USBR's and the DWR's protests against new applications. (Order WR 2001-22, p. 8; see discussion *infra*, section 8.0.)

regarding environmental limitations on existing water right holders imposed after the issuance of orders supporting the Declaration.

For example, several decisions implementing instream flows necessary to protect fisheries and recreation on the Lower American River have been issued since the issuance of D 893 and other orders supporting the Declaration. In 1972, the SWRCB issued D 1400 (1972), setting fisheries flows for the American River higher than those in D 893, as a condition of the permits for the proposed Auburn Dam. Auburn Dam was never constructed, and the D 1400 flows were never imposed. The United States Bureau of Reclamation (USBR) currently implements modified D 1400 flows that incorporate the flow objectives of the Anadromous Fisheries Restoration Program pursuant to the Central Valley Project Improvement Act. The subject of water rights and instream flows was also addressed in a January 2, 1990, judgment of the Superior Court for the County of Alameda (*Environmental Defense Fund, Inc. v. East Bay Municipal Utility District*, (Super. Ct. County of Alameda, 1990, No. 425955) (Hodge Decision)). While only binding on the parties involved in the litigation, the Hodge Decision provided a basis for crafting a physical solution that includes minimum instream flows for various seasons in the American River. The parties were instructed not to present evidence on these decisions because the decisions did not serve as a basis for the Declaration and are not considered in this proceeding.

2.3 SWRCB Hearing on Petition

Section 871 of title 23 of the California Code of Regulations allows the SWRCB to revoke or revise the Declaration upon its own motion or upon petition of any interested person. In this instance, the SWRCB held a public hearing on May 31 and June 13, 2002, based on the petition submitted by SCWC and pursuant to a Notice of Public Hearing dated March 6, 2002. The hearing provided an opportunity for the petitioner and all interested parties to present evidence and argument in support of their positions.

In addition to the petitioner, representatives of the following parties presented a case-in-chief at the hearing: Aerojet, California Department of Fish and Game (DFG), City of Sacramento (City), Sacramento County/ Sacramento County Water Agency (Sacramento County), and the USBR. The following parties participated by conducting cross-examination of witnesses, and submitting closing briefs: Central Valley Regional Water Quality Control Board (Regional Board), California-American Water Company (Cal-Am), and California Department of Water Resources (DWR). The Water Forum and Friends of the River submitted policy statements.

3.0 DESCRIPTION OF PROJECT PROPOSED BY PETITIONER

In the petition, SCWC requests that the SWRCB allow it to file an application to appropriate the same amount of water from the American River that is discharged by Aerojet from its contamination cleanup operations, less conveyance losses. Aerojet currently operates two groundwater extraction and treatment systems, referred to as the American River Groundwater Extraction and Treatment (ARGET) facility and the E and F Groundwater Extraction and Treatment System (GET E/F). In addition, a third system is proposed, referred to as remedy or alternative 4C, the preferred alternative in the Record of Decision (ROD) issued by the United States Environmental Protection Agency (U.S. EPA). (R.T. pp 44-49; SCWC 9, p. 3; SWRCB 1,

Exhibit C.) The SCWC application lists various options for its proposed point of diversion. The options are grouped into three general categories: (1) utilize existing diversion facilities located on the lower American River and owned by the Carmichael Water District; (2) divert the water from Buffalo Creek prior to its entry into the Lower American River; and (3) deliver the quantity of water to SCWC's existing diversion works on the Folsom South Canal. All water use would be within the Arden-Cordova Water Service's Rancho Cordova System Area. (SWRCB 2, January 17, 2002 cover letter, p. 2, Attachment 3a & b.)

The petitioner presented testimony that under full scale operation, Aerojet plans to pump, treat, and discharge up to 21 cfs of groundwater from its existing facilities and 18 cfs from the proposed 4C facility, to produce a combined potential discharge of 39 cfs (17,450 gallons per minute (gpm) or 28,150 afa). (R.T. pp. 45-49; SCWC 9, p. 3.) Sacramento County's witness testified at the hearing that Aerojet will discharge in excess of 41 cfs (30,000 afa), modifying its written testimony, which estimated the discharge to be 32 cfs (23,000 afa). (R.T. pp. 262-263; Sacramento Co. 1, p. 3.) The USBR's expert witness estimated Aerojet's discharge to be in the range of 5 to 40 cfs. (USBR 15, p. 2.) Aerojet, however, presented testimony that it planned to pump, treat and discharge only 9 cfs (4,150 gpm or 6,700 afa) from the proposed 4C facility. (R.T. pp. 169-170; AGC 1, p. 28.) Using Aerojet's more conservative estimate of the 4C discharge reduces the combined potential discharge to 30 cfs.⁵ Aerojet's discharge point initially will be to Buffalo Creek, which is tributary to the American River. (R.T. pp. 45-50.) Based on evidence in the hearing record, conveyance losses in Buffalo Creek are estimated to be roughly twenty-five to twenty-nine percent. (R.T. pp. 51-53, SCWC 9a, p. 20.)

At the ARGET treatment facility, Aerojet treats contaminated groundwater pumped from the ARGET extraction wells and then discharges the treated groundwater to Buffalo Creek.⁶ The ARGET facility currently pumps roughly 2,100 gpm (5 cfs or 3,300 afa). Aerojet plans to increase production to up to 2,500 gpm (6 cfs or 4,000 afa). In the future, Aerojet may discharge up to 3,450 gpm (8 cfs or 5,500 afa) to Buffalo Creek. (R.T. pp. 45-46; AGC 1, p.6; SCWC 9a, p. 15; SWRCB 1, Exhibit A.)

The GET E/F system treats groundwater extracted from the westerly portion of the Aerojet facility. Extraction wells pump to a common treatment system. The water is currently extracted, treated, and then discharged to the ground, in a series of ponds located in an area east of the GET E/F system. At the time of the hearing, Aerojet discharged roughly 3,300 gpm (7 cfs or 5,300 afa) of treated groundwater extracted from the GET E/F facility to the ground surface (R.T. pp. 47-48, 168-169; AGC 1, p. 20), recharging the aquifer, under the terms of a governing Partial

⁵ Alternative 4C includes additional GET E/F extraction wells in addition to offsite extraction wells in multiple containment corridors. (AGC 3, Volume I, pp. [ES-6], 78-81.) It appears that SCWC's combined flows double count the additional GET E/F wells. For accounting purposes in this Order, when we reference alternative 4C, we reference the offsite extraction wells only. Flows from the additional GET E/F wells are considered GET E/F flows.

⁶ Regional Board Order R5-2002-0128, NPDES Permit No. CA0083861, refers to the American River Study Area (ARSA) Groundwater Extraction and Treatment System. (SCWC 25, p. 1.) ARGET is a groundwater extraction and treatment system for the ARSA. In this order, we refer to the "ARGET area" rather than ARSA to describe the area where groundwater is extracted by the ARGET system.

Consent Decree. (SCWC 25, p. 5.) Aerojet plans to increase the pumping capacity of the GET E/F system to about 6,000 gpm (13 cfs or 9,600 afa) and discharge the treated water to Buffalo Creek. (R.T. pp. 47-48, 168-169; AGC 1, pp. 20-21; SCWC 25, pp. 5-6.) At some point in the future, treated groundwater from the GET E/F facility may also be discharged to Alder Creek.⁷ (AGC 1, pp. 20-21; SCWC 25, p. 6.)

A third amount of water is from a proposed system chosen from a series of remedial alternatives developed by Aerojet's remedial investigation feasibility study. U.S. EPA issued a Record of Decision indicating that alternative 4C is the preferred remedy to treat the contamination within the Western Groundwater Operable Unit (WGOU). (R.T. pp 48-49; SCWC 9, p. 3; SWRCB 1, Exhibit C.) According to testimony presented by Aerojet, the proposed system will pump groundwater at approximately 4,150 gpm (9 cfs or 6,700 afa), treat it, and discharge the treated groundwater either directly or indirectly to the American River, most likely through Buffalo Creek. (R.T. pp. 169-170; AGC 1, p. 28.)

As specified in the Hearing Notice, this proceeding addresses water discharged under Regional Board Order No. 98-113, National Pollutant Discharge Elimination System (NPDES) Permit No. CA0083861, adopted on April 17, 1998, and foreseeable revisions to the same NPDES permit only. (See March 6, 2002, Hearing Notice.) At the time of the hearing, Aerojet was authorized to discharge up to 3,450 gpm (8 cfs or 5,500 afa) of effluent to Buffalo Creek from the ARGET facility under Regional Board Order No. 98-113. (R.T. pp. 45-46, SWRCB 1, Exhibit A.) On July 19, 2002 and after the hearing was concluded, the Regional Board adopted a revised NPDES permit (No. CA0083861), Regional Board Order No. R5-2002-0128.⁸ The revised NPDES permit allows Aerojet to discharge up to 6,000 gpm from Aerojet's GET E/F System to Buffalo Creek and/or Lake Natoma via Alder Creek in addition to the 3,450 gpm from the ARGET system allowed under Order No. 98-113. Under the revised NPDES permit, Aerojet is allowed to discharge a total of 9,450 gpm (21 cfs or 15,100 afa) to the American River stream system from the two existing treatment facilities. (SWRCB 7.) Under full-scale development, with the addition of alternative 4C, Aerojet plans to pump, treat, and discharge a total of 13,600 gpm (30 cfs or 21,800 afa) from the three treatment systems. Aerojet currently does not have an NPDES permit from the Regional Board to discharge treated groundwater from the proposed 4C system to the American River.

4.0 PHYSICAL SETTING

4.1 American River Watershed

Lake Natoma serves as the dividing line between the upper and lower American River watersheds. (AGC 3, Volume I, section 1, p. 4.) The lower American River meanders in a southwesterly direction from Lake Natoma and Nimbus Dam below the base of the Sierra Nevada foothills to join the Sacramento River, eventually flowing into the Sacramento-San

⁷ This Order addresses discharges to Buffalo Creek. Parties did not present evidence on the details of any water to be discharged to Alder Creek.

⁸ The SWRCB takes official notice of Regional Board Order No. R5-2002-0128, hereafter identified as SWRCB Exhibit 7.

Joaquin Delta. The USBR controls the flows in the American River through Folsom Dam, located 6 miles upstream and northeast of Lake Natoma. The basin is characterized by a relatively flat topographic surface gently sloping to the west. Several ancestral river terraces are present on the north and south sides of the American River. Dredging operations took place from the early 1900's through the 1960's throughout the area. Dredging involved the removal and sorting of sediments from the ground surface to depths up to 80 feet. Redeposition of the dredged sediments has formed the irregular patterns visible on the land surface within the area. (AGC 3, Volume I, section 1, p. 4.)

The Aerojet facility is located south of US Highway 50 near Rancho Cordova, in Sacramento County, approximately 15 miles east of downtown Sacramento. (SCWC 9a, p. i.) Buffalo Creek, an intermittent stream, has its headwaters within the northern portion of the Aerojet site. Aerojet currently discharges a portion of its treated water to Buffalo Creek, inside the perimeter of the Aerojet Facility. Flowing west, Buffalo Creek exits Aerojet's western property boundary, passes over the Folsom South Canal in a concrete channel, and then crosses beneath US Highway 50 approximately 1.3 miles east of Sunrise Boulevard. From there, Buffalo Creek flows predominantly north and northwest 1.8 miles to where it intersects the American River immediately east of the Sunrise Boulevard river overpass. (SCWC 9a, p. 15; AGC 1, p.4; Figure 1.) The stream is lined with native soil material for most of its length, except at the canal and road crossings. The Creek passes through numerous residential developments along its course and several stormwater drains empty into it. (SCWC 9a, p. 15.)

4.2 Groundwater Basin Characteristics

The project proposed by SCWC contemplates appropriating water pumped and treated from two areas in the groundwater basin that possess different characteristics, namely, the Western Groundwater Study Area (WGSA)⁹ and the ARGET area. (See Figure 1.) The WGSA includes groundwater underlying the GET E/F facility and the proposed 4C operation. (SCWC 9a, p. 1.) Groundwater characteristics are similar beneath both the GET E/F and proposed 4C facilities and thus are described them together. The ARGET area refers to groundwater underlying the ARGET system and is described separately due to the unique characteristics of the groundwater in this area. There are two different sets of nomenclature used to describe the hydrostratigraphic units beneath these two areas. Aerojet recognizes six hydrostratigraphic layers (Layers A through F) beneath the WGSA and defines hydrogeologic units Aquifers A through D beneath the ARGET area. Layers A through F beneath WGSA do not necessarily equate to Aquifers A to D beneath the ARGET area. (SCWC 9a, p. 12.)

4.2.1 Western Groundwater Study Area (includes GET E/F and 4C)

Layer A is the shallowest groundwater layer in the WGSA and is generally encountered at 40 to 100 feet below ground surface (bgs). It contains abundant sand and gravel with much of it historically dredged for gold to depths of approximately 80 feet bgs. (AGC 1, p. 22.) Layer A is

⁹ Some parties refer to the WGOU or OU-3 in the testimony. Groundwater under the Aerojet site is divided into operable units (OUs) because of the overall size of the remediation effort and to expedite the remediation. OU-3 is another name for the WGOU. 4C is the preferred remedy for the WGOU. (SWRCB 1, Exhibit C, p. 1.) In this order, we refer to the WGSA, which includes both the WGOU (or OU-3) and GET E/F.

dry throughout most of the WGSa. (*Ibid.*) Layer B is typically present at depths of 100 to 180 feet bgs. (*Ibid.*) Layer B is laterally discontinuous throughout the WGSa; it is present only in the central and western portions of the area. (AGC 5, p. 3-5.) Where present, Layer B is separated from Layer A by a 10-to 50-foot thick aquitard composed of clay and silt. (*Ibid.*) Layer B is separated from underlying Layer C by an aquitard that varies from 10 to over 100 feet thick. (SCWC 9a, p. 13.) Layer C is present at depths of 150 to approximately 200 feet bgs and is separated from Layer D by a 10- to 40- foot-thick layer of silt and clay. (AGC 1, p. 23.) Layer D is present at depths ranging from 220 to 350 feet bgs and is separated from underlying Layer E by a 10- to 45-foot-thick layer of silt and clay. (*Ibid.*) Layer E is present at depths of 350 to 400 feet bgs. (*Id.* at p. 24.) Layer F was not described in the testimony. (*Id.* at p. 21.)

Groundwater flow is generally to the west-southwest in Layers A and B. (SCWC 9a, p. 12.) Similarly, in layers C, D, and E, the groundwater flow direction is generally to the west-southwest, although deviations may be observed in the vicinity of the GET E/F extraction wells. Deviations of groundwater flow are due to the influence of the drawdown of the water table in the vicinity of these wells. (*Id.* at p. 13.) The groundwater flow direction is generally to the west in Layer E. (*Id.* at p. 14.)

Groundwater levels beneath the GET E/F system are between 30 and 70 feet below the elevation of the river. (SCWC 9a, p. 40.) Similarly, the groundwater elevations in the Alternative 4C area are a minimum of 35 feet lower than the American River. (*Id.* at pp. 40-41.) Groundwater moves vertically up or down depending on various factors including differences in hydraulic head potentials in different aquifers, soil permeability, and degree of saturation. Some degree of vertical movement of groundwater exists between all six layers underlying the WGSa. Potentiometric surface elevations measured in Layer A typically range from 15 to 40 feet above those measured in Layer B. (AGC 3, Volume I, p.9.) This relatively high vertical head potential suggests there is a strong potential for downward vertical migration from Layer A to Layer B. (*Ibid.*) A similar but less strong vertical head exists between Layers B and C. (*Ibid.*) Vertical head potentials in Layers C, D, and E are relatively minor throughout the area. (*Ibid.*)

4.2.2 ARGET Area

Aerojet defined Aquifers A through D in the ARGET area based on lithologic descriptions, water levels, geophysical data, pumping test data, and relative depths and thickness. (AGC 1, p. 9.)

Aquifer A, the uppermost water-bearing zone, occurs at depths of approximately 25 to 100 feet bgs. (AGC 1, p. 9.) Aquifer A has been extensively disturbed by historic placer gold mining dredging, resulting in widespread irregular deposits of mine spoil covered with cobbles and gravel. (*Ibid.*) Aquifer B consists primarily of sands, gravels, and silty sands and is present at depths of 100 to 200 feet bgs. (*Id.* at p. 10.) Aquifer B is separated from overlying Aquifer A by an aquitard ranging from approximately 10 to 55 feet thick. (*Ibid.*) Aquifer C consists of sands, gravels, and silty sands that occur at depths of 160 to 230 feet bgs. (*Ibid.*) Aquifer C is separated from overlying Aquifer B by an aquitard 15 to 50 feet thick. (*Ibid.*) Aquifer D is present at depths ranging from 200 to 230 feet bgs. (*Id.* at p. 11.) Aquifer D is 30 to 150 feet thick and is separated from overlying Aquifer C by a 10 to 40-foot thick layer of silt and clay. (AGC 1, p. 11; SCWC 9a, p. 11.)

The predominant groundwater flow direction in Aquifers A, B, and C are toward the west-northwest. (SCWC 9a, pp. 10-11.) The groundwater flow direction in Aquifer D is generally toward the west. (*Id.* at p. 12.) Near Lake Natoma to approximately 3,000 feet downstream of Nimbus Dam, groundwater levels in Aquifer A appear to be above the elevation of the River. (*Id.* at p. 43; AGC 1(c), Figure 2-1.) Groundwater elevations for Aquifer A are close to the elevation of the river between approximately 3,000 to 6,000 feet down-stream from Nimbus Dam. (AGC 6, Appendix A, p. 9.) Beyond the 6,000-foot reach there exists an unsaturated zone between the river and the groundwater table. (R.T., p. 163.) The depth of the unsaturated zone increases in the westward direction. (*Ibid.*)

Some degree of vertical movement of groundwater exists between the aquifers underlying the ARGET area. Aerojet assessed groundwater movement between aquifers by evaluating the differences in elevations of the potentiometric surfaces of the aquifers. (AGC 6, Appendix A, p. 11.) The evaluation indicated that there is potential for downward movement of groundwater from Aquifer A to Aquifer B and from Aquifer B to Aquifer C throughout the area. (*Ibid.*) However, an upward gradient was observed in several wells located in the area within 3,000 feet downstream of Nimbus Dam. (AGC 2, Table 3.4, Figure 3-22.) The upward gradient indicates the potential for groundwater to move upward from Aquifer B to Aquifer A. (SCWC 9a, p. 11.) Groundwater movement between Aquifer C and Aquifer D varies across the area with both an upward and downward movement. (AGC 6, Appendix A, p. 11.)

5.0 ISSUES FOR HEARING AND PARTIES' POSITIONS

5.1 Key Hearing Issues

The Notice of Public Hearing issued by the SWRCB on March 6, 2002, listed the following key hearing issue:

Should the SWRCB revise the Declaration to allow the Division of Water Rights to accept and process water right applications to appropriate "treated groundwater discharged into the American River"?

- Has adequate information been provided to demonstrate that there is a change in circumstances since the American River system was included in the FAS Declaration?
- How much, if any, of the water discharged by groundwater treatment operations is water that was not considered at the time the American River system was included in the FAS Declaration?
- To what extent, if any, have flows in the American River been affected by groundwater treatment operations, including both pumping and discharging, since the American River system was included in the FAS Declaration?
- Has the petitioner provided sufficient hydrologic data, water usage data, or other relevant information to support a determination that there is unappropriated water in the

American River system during the season applied for to justify revising the Declaration for the purpose of accepting and processing water right applications related to the discharges of treated groundwater into the American River?

5.2 Positions of the Parties

Following the evidentiary hearing, the SWRCB received legal briefs from SCWC, Aerojet, DFG, Sacramento County, USBR, Regional Board, and Cal-Am. The City of Sacramento did not submit a closing brief but its position is summarized from its opening statement and testimony.

5.2.1 SCWC

The petitioner states that the record shows that the water Aerojet pumps, treats, and discharges into the American River via Buffalo Creek is new water, water that would not reach the stream under natural conditions and thus, should support a limited revision of the Declaration to allow the Division to accept and process water right applications to appropriate that water. SCWC believes the Declaration should be revised to allow the Division to accept SCWC's own application and those from other water purveyors affected by contamination of groundwater in the vicinity, including Sacramento County and Cal-Am. The petitioner asks that Aerojet not be allowed to submit an application to appropriate the water it discharges into the American River.

5.2.2 Aerojet

Aerojet's position is that the treated groundwater discharged by Aerojet is "new water" that was not considered when the American River was declared to be fully appropriated because Aerojet's discharges began after the Declaration issued. Aerojet argues that this "additional water" was not considered in the Declaration because: (1) the groundwater is not in a subterranean stream; (2) the Declaration was not based on groundwater pumping; and (3) groundwater pumping does not reduce flows in the American River by inducing recharge. Aerojet asks that the Declaration be revised without any limitation on who may apply for the right to use the new water.

5.2.3 DFG

DFG does not want the SWRCB to revise the Declaration because the water is not "truly new." DFG argues that the water now extracted by Aerojet was considered in the water balance in D 893, a decision supporting the Declaration that the American River is fully appropriated, and argues that the water is essentially "recirculated river water" that will not result in a net increase in surface flows in the American River beyond those existing when it was declared fully appropriated. DFG believes that Aerojet's groundwater operation draws primarily from surface water flow. DFG contends that the decline of surface flows since the Declaration means that circumstances have not changed so as to make this water an addition, and argues that the cause of the declining surface flow is the declining groundwater table.

5.2.4 USBR

The USBR asks the SWRCB to deny the petition to revise the Declaration because the petitioner has not shown that the water in question is unappropriated water in the American River. The USBR maintains that even with the additional water discharged by Aerojet, the American River will remain fully appropriated from July 1 through October 1 of each year.

5.2.5 Sacramento County

Sacramento County asks the SWRCB not to revise the Declaration based on the argument that the water Aerojet is treating is percolating groundwater and should remain classified as groundwater after it enters the American River. Sacramento County believes that there is no dispute that the water at issue is "new water." The County argues, however, that there is no water available for appropriation in the American River as a result of Aerojet's pumping and discharging treated groundwater into Buffalo Creek because the water is already appropriated by various water purveyors and overlying landowners. Sacramento County asks the SWRCB to recognize that only those who possess overlying groundwater rights have a right to that water, based on the intentions of various agencies involved in a separate water quality dispute.

5.2.6 Regional Board

The Regional Board requests that if the SWRCB grants the petition and determines that the water may be available for appropriation, the highest priority for use of the discharged water should be replacement water for drinking supplies for affected communities, whether served by SCWC or another water purveyor. If the SWRCB determines that the water in question is available for appropriation, the Regional Board urges the SWRCB to consider whether affected water purveyors other than the petitioner also may be entitled to claim a portion of the water discharged by Aerojet.

5.2.7 City of Sacramento

The City asks the SWRCB not to revise the Declaration because it asserts that the petitioner did not meet its burden to show that the water would have been new at the time the orders were issued that found the American River fully appropriated. The City noted that since the decisions were made on which the Declaration is based, demands on the American River have increased and, even if the water were new, any water available would likely go toward satisfying these requirements.

5.2.8 Cal-Am

Cal-Am asks the SWRCB to deny SCWC's petition. Like Sacramento County, Cal-Am argues that the treated groundwater remains groundwater when released into a surface stream. Cal-Am claims that the overlying landowners and historic appropriators have the right to use the water from the groundwater basin and the right to recapture that water remains with those parties. Cal-Am argues that the water is not "abandoned" water and should not be subject to Term 91.

6.0 STATUS OF THE WATER AT ISSUE

Several parties argue in their closing briefs that the SWRCB should find that the water at issue in this proceeding retains its legal status as groundwater even if the water is discharged into a surface water channel. Interested parties, including Sacramento County and Cal-Am ask the SWRCB to determine and allocate rights to this water according to California groundwater law.

For purposes of determining whether to revise the Declaration, and whether the statutory water right process applies, the issue is whether the water is in a natural channel, not what the original source of the water was before it found its way into the channel. (See Wat. Code, § 1201.) Indeed, if the character of water was determined by its original source, that characterization would mean that little, if any water is, or ever was, available for appropriation under the Water Code. Virtually all surface water originates from sources – including groundwater, unchannelized sheetflow, and rivers flowing from other states – that are not subject to appropriation under the Water Code until after the water enters a natural channel. In fact, all waters of the state originate as rain and snow, which is not subject to the statutory appropriation procedures if it is captured before it enters a stream, lake or other body of water. If waters retained their original character even after they flow into a natural channel, virtually all of the water flowing in natural channels would be considered off limits to appropriation under the Water Code.

Water as it relates to applications to appropriate water refers only to surface water and to subterranean streams flowing through known and definite channels. (Wat. Code, § 1200.) Under Water Code section 1205, a "stream system" designated fully appropriated includes a stream, lake, or other body of water, and tributaries and contributory sources, but does not include an underground water supply other than a subterranean stream following through known and definite channels. The Declaration and petitions to revise the Declaration are determinations made primarily in the context of surface water permits. Issues concerning groundwater not flowing through known and definite channels, often referred to as "percolating groundwater," are relevant in this proceeding only to the extent that the SWRCB considered in the decisions that provide the basis for finding the American River fully appropriated: (1) the amount of water flowing between the stream system and the interconnected aquifers and (2) how much water in the stream system is necessary to recharge the aquifers. In addition, the hearing notice included a key issue asking whether the groundwater is tributary to the American River. Other issues concerning percolating groundwater and the rights thereto are irrelevant and outside the scope of this proceeding.

The closest comparison we can make of the water at issue here is to developed, or foreign water that is subsequently abandoned. Developed water consists of new waters added to a stream by means of artificial works, which would not under natural conditions enter the stream. (*Cohen v. La Canada Land & Water Co.* (1907) 151 Cal. 680, 692.) Similarly, foreign water is defined as water brought by artificial means into an area from a different watershed. (*E. Clemens Horst Co. v. New Blue Point Mining Co.* (1918) 177 Cal. 631, 634.) Percolating groundwater extracted from the ground and then added to a stream is foreign if the groundwater is not in hydrologic continuity with the stream and would not reach the stream under natural conditions. (*Mayberry*

v. Alhambra Addition Water Co. (1899) 125 Cal. 444, 449.) Conversely, percolating groundwater should be treated as native water if under natural conditions the groundwater would reach or recharge the stream. To the extent that the groundwater Aerojet pumps, treats and discharges into the American River is not contributory to the surface stream, and would not be contributory under natural conditions, this water is foreign and developed because it would not have reached the stream otherwise and is imported by artificial means.

A person or entity that by his or her own efforts makes such water available is entitled to use it, so long as the use does not infringe on the prior rights of others. Water Code section 7075 allows the use of a natural stream channel as a conduit for delivering water to another location downstream.¹⁰ The rule codified by the statute applies to the addition and withdrawal of water in an underground basin. (*City of Los Angeles v. City of San Fernando* (1975) 123 Cal.Rptr. 1.) If the owner chooses not to maintain a claim to the water, the water must be considered abandoned into a natural watercourse and can be appropriated by downstream water right holders in order of priority.¹¹ Of course, such rights are subject to the contingency that the artificial supply may be limited or terminated at any time by the producer. (See *Stevens v. Oakdale Irrigation Dist.* (1939), 13 Cal. 2d 343, 349.) The producer of foreign water can stop abandoning the water at any time and instead dispose of the water pursuant to a contract or otherwise. (*Haun v. De Vours* (1950) 97 Cal.App. 2d 841.) Aerojet has expressed no intention to recapture its pumped, treated and discharged groundwater. For our purposes, this water must be viewed as developed and abandoned into the natural channel (water not tributary to the stream under natural conditions), and thus subject to appropriation in accordance with the Water Code provisions.

Based on the foregoing, we conclude that the water at issue in this proceeding is public water of the State under Water Code section 1201. Any issues concerning alleged injury to groundwater rights occurring prior to this water finding itself in a natural channel, and in connection with where this water originated and how, are outside the scope of this proceeding. At a point where water enters the American River or a tributary thereto, it becomes water subject to the SWRCB's permitting authority for the purpose of deciding whether to revise the Declaration to allow parties to file applications to appropriate this water.

7.0 CHANGED CIRCUMSTANCES IN THE LOWER AMERICAN RIVER STREAM SYSTEM AFFECTING THE AMOUNT OF WATER AVAILABLE FOR APPROPRIATION

A major key issue for this hearing was, "Has adequate information been provided to demonstrate that there is a change in circumstances since the American River system was included in the FAS Declaration?" The "change in circumstances" refers to a change in circumstances from those

¹⁰ Water Code section 7075 provides:

"Water which has been appropriated may be turned into the channel of another stream, mingled with its water, and then reclaimed; but in reclaiming it the water already appropriated by another shall not be diminished."

¹¹ The term "abandonment" in this sense should be distinguished from the abandonment of a water right, which requires the elements of intent, relinquishment of possession, and a valid water right. Here we refer to the term for the abandonment of the *corpus* of water, the actual particles of water relinquished.

considered in previous water right decisions determining that no water remains available for appropriation. (Cal. Code Regs., tit. 23, § 871 (b).) This consists of two elements. First, the petitioner must show whether the water at issue is "new water" -- water that would not have reached the stream at the time the orders were made that support the declaration that the American River is fully appropriated. This includes not only showing that there is a new discharge to the River, but also requires evidence that the pumped groundwater being discharged would not have been tributary to the River during the relevant time period. Second, the petitioner must show that if the water is new water, circumstances have changed so that it would have been available for appropriation by new users during the relevant time period. Thus, appropriate testimony for the hearing included limitations, including environmental terms and conditions, on water right holders that existed at the time the decisions were issued that support the Declaration.

7.1 New Water

To assist us in making a determination of whether the pumped and treated water discharged to the American River is new water, we asked the parties to address the key issue, "How much, if any, of the water discharged by groundwater treatment operations is water that was not considered at the time the American River system was included in the FAS declaration?" We also asked, "To what extent, if any, have flows in the American River been affected by groundwater treatment operations, including both pumping and discharging since the American River system was included in the FAS Declaration?" Petitioner needed to establish that the pumped groundwater would not otherwise reach the River now *and* would not have reached the River during the relevant time period. We find that groundwater in Layers B through E beneath the WGSAs is new water, and that groundwater in Aquifers C through E beneath the ARGET is new water.

7.1.1 Western Groundwater Study Area

The evidence shows that groundwater in the vicinity of the GET E/F system and the proposed 4C location (together referred to as the WGSAs) is currently not tributary to the American River. In addition, it appears that the groundwater at the depth and distance from the River that Aerojet is currently pumping and proposing to pump under alternative 4C was not tributary to the American River during 1958-1964. The groundwater underlying the ARGET system presents some unique characteristics and is discussed separately in section 7.1.2.

Petitioner provided uncontroverted testimony that the groundwater in the WGSAs is currently not contributing to the American River. In this area, the American River is a losing stream evidenced by low groundwater elevation, the interpretation of the groundwater level contour lines, extensive unsaturated layers above the relevant aquifers, and the tendency for downward movement of groundwater. While this evidence establishes that the water is "new" or not reaching the stream now, this does not end our inquiry. Petitioner must show that this condition existed during the relevant time period, which is when the orders were issued that support the Declaration.

To establish that the groundwater was not tributary to the American River historically, SCWC contends that groundwater conditions at that time were similar to conditions that currently exist. (R.T. p. 63; SCWC 9a, pp. 29, 38-39, 42, 45.) Both DFG and the City of Sacramento contend that the petitioner did not provide sufficient historical evidence to show that the groundwater was not tributary during the relevant time period. Based on the evidence, it appears that the groundwater may have been seasonally tributary to the river; however, due to the depth of the proposed and existing extraction wells and the distance from the wells to the American River, we find that water in Layers B through E can be considered new water for the purposes of this proceeding.

The majority of the current and proposed GET E/F extraction wells would pump groundwater from Layers C and D, which occur at depths of approximately 150 feet bgs or more. (AGC 1(s)&(t).) The three wells pumping from Layers A and B are located over two and one-half miles from the River and present a small fraction of the total volume of pumped water. The proposed extraction wells in the 4C area will extract groundwater only from Layers C, D, and E. (AGC 1, p. 28.) The extraction wells will be installed at least 6,000 feet south of the American River and will pump from minimum depths of approximately 240 feet bgs. (*Ibid.*) The shallowest layer (Layer C) that will be pumped by these wells is overlain by at least 30 to 40 feet of unsaturated sediments, and over 200 feet of saturated sediments. (*Ibid.*) Based on the distance from the American River and the depths of the proposed extraction wells, even if the American River were seasonally gaining in the relevant time period, groundwater extracted from this area would not have reached the River.

Petitioner's testimony was inadequate to show that the River was historically a losing stream year-round and, in particular, during the summer months when the river is listed on the Declaration. Aquifer A is the only aquifer layer that could have had a direct hydraulic connection with the River. Therefore, water pumped from Layer A might have historically reached the River, and cannot be classified as new water.

We conclude that the American River in the WGSA was an annually losing stream during the relevant time period for purposes of this proceeding. Excluding Layer A, even if the River were seasonally gaining, groundwater at the depth and distance from the stream reach that Aerojet will pump would not have reached the River and thus, can be considered new water.

7.1.2 ARGET

The groundwater underlying the ARGET system differs from that in the WGSA because in some areas, the groundwater elevations are currently at or above River elevations indicating that the American River is a gaining stream in this reach. Like the WGSA, in order to show that this water is new, petitioner had the burden to show that the water would not otherwise have reached the River under current and historical conditions. In areas where groundwater is tributary to the River, we cannot find that it is new water. For reasons similarly stated for the WGSA, much of the water in the ARGET area may be considered new.

Petitioner provided testimony that the American River is a losing stream along two-thirds of the ARGET area. (SCWC 9a, p. 32.) In the remaining third, an area in the eastern portion of the

ARGET system near Nimbus Dam, groundwater levels are at or slightly above the River elevation, indicating that groundwater is discharging to the American River. (R.T. pp. 60, 72, 79-80; SCWC 9a, pp. 31-32; SCWC 17, Figure A-7.) Petitioner concedes, because of higher groundwater levels at the eastern end of ARGET area, that it is likely that a portion of the water extracted from two of the 15 wells is tributary to the American River. (R.T. pp. 93-94; SCWC 9a, p.43.) These two wells are screened in Aquifers A and B and are located approximately 3,000 feet downstream from Nimbus Dam. (DFG 32, p. 11; AGC 1 (c), Figure 2-1.) We are persuaded by the evidence that Aquifer A and the American River are sufficiently interconnected to determine that this is not new water, especially because the petitioner concedes that it is not new water, at least 3,000 feet downstream of Nimbus Dam. Also, there is some evidence to support the conclusion that Aquifer B is interconnected with Aquifer A in this area, including petitioner's own evidence that one of the wells in Aquifer B is tributary to the River. Thus Aquifer B should also be excluded from the finding of new water. (AGC 2, Figures [3-22] - [3-27]; SCWC 9a, p. 11.)

Some evidence exists to support the finding that groundwater may be tributary to the River beyond the reach between Nimbus Dam and 3,000 feet downstream from Nimbus Dam. Hydrographs of Well 1478 (Aquifer A), located about 3,500 feet downstream of Nimbus Dam, show that the groundwater elevation is above the River elevation. (City I, pp. 1-2.) In addition, Aerojet testified that the potentiometric surface for Layer A is close to the elevation of the American River from Nimbus Dam to approximately 6,000 feet down-river, indicating that the American River may, at times, be a gaining stream in that reach. (AGC 6, Appendix A, p. 9.) Aerojet testified that in the area of Wells 4370 through 4380, the groundwater levels are far below the levels of the American River, indicating separation between the groundwater table and the River by an unsaturated zone that increases westward. (R.T. p. 163.) These wells are located approximately 6,300 feet downstream from Nimbus Dam. (AGC 1 (d), Figure 3-1.) The separation distance increases towards the west, and near Well 4340 groundwater levels are 25-30 feet below the River. (R.T. p. 163.) Well 4340 is located about 8,000 feet downstream of Nimbus Dam. (AGC 1 (d), Figure 3-1.) We conclude from this information that water pumped from Aquifers A and B within a 6,000-foot stretch below Nimbus Dam may reach the River and thus cannot be considered new water.

The arguments discussed in section 7.1.1 generally apply to the ARGET area as well as the WGSA. Substantial evidence exists to support the conclusion that the American River is currently a losing stream beyond 6,000 feet downstream of Nimbus Dam. Evidence in the record, including historic documents prepared by the SWRB and DWR, supports the conclusion that the American River, outside of the reach near Nimbus Dam, was at least an annually losing stream during the relevant time period. (SCWC 12; DFG 28; 29.) As discussed in the section 7.1.1, petitioner did not present sufficient data and analysis to show that the River was not a gaining stream during some months of the relevant time period and therefore, water from Aquifers A and B will not be considered new water. As in the case for the lower zones in the WGSA, we find it unlikely that water pumped from the lower aquifers (Aquifers C and D) in ARGET would have historically reached the River. Thus, water from those aquifers can be considered new water. Petitioner did not demonstrate to our satisfaction that water from Aquifers A and B was not tributary to the River further downstream in the past at a distance more than 3,000 feet downstream of Nimbus Dam, but we have allowed for this possibility with

a conservative estimate of 6,000 feet. Excluding all of Aquifer A, and Aquifer B within 6,000 feet of Nimbus Dam, groundwater found at the depth that Aerojet pumps would not have reached the River during the period from 1958 to 1964 and can therefore be considered new water.

7.2 Changed Circumstances: Basin Entitlements at the Time Decisions were Issued

The SWRCB placed the American River on the Declaration based on two decisions in which the SWRB determined the River was fully appropriated from July 1 through October 31 (SWRCB 3a, p. 40; R.T. p. 104), specifically D 1108 and D 1211. Those decisions relied on evidence presented during various water right hearings, and resulted in findings that water is unavailable in the American River from August through October, the Sacramento River from July through August, and the Delta from June 15 through October. Upon review of these existing decisions and the evidence presented in this hearing, we find that regardless of whether the water pumped, treated, and discharged to the American River by Aerojet is new water, the petitioner did not provide sufficient evidence to show that circumstances have changed since the time the decisions were adopted to warrant revising the Declaration for the months of July through October. Based on the evidence in the hearing record, the amount of water added to the American River stream system by Aerojet is not sufficient to both make up for the flow deficiencies that existed at the time the prior decisions were adopted and provide significant additional flow that may be available for appropriation.

7.2.1 August through October

Both D 1108 and D 1211 cite D 893 for the finding of water unavailable in the American River during the months of August, September, and October. The USBR's Exhibit 1 is a plate from D 1400, a decision specifically excluded from this hearing.¹² The exhibit does contain, however, relevant flow information from D 893, a previous water right decision that we are to consider in this proceeding as it provided a basis for including the American River on the Declaration. Figure 2 (attached) is a modified version of the USBR's Exhibit 1 and compares the mean flow of the American River¹³ to demand downstream from Folsom Dam including flow requirements that were in place at the time the SWRB issued D 893. During the periods when demand exceeds available flow, unappropriated water ceases to exist in the American River. Using the data and analyses presented in D 893, and assuming all of the water discharged from Aerojet's groundwater extraction and treatment system is new water (with the exception of 350 gpm that

¹² In 1972, SWRCB issued D 1400, setting fisheries flows in the American River higher than those in D 893, as a condition of the permits issued for the proposed Auburn Dam. Auburn Dam was never constructed and the D 1400 flows were never imposed. The March 6, 2002 Hearing Notice specifically excluded this and other decisions from this proceeding because they do not serve as a basis for the American River listing on the Declaration. (Hearing Notice, p. 2; see also April 26, 2002 letter from Hearing Officer Peter S. Silva regarding revised schedule and clarification of scope of proceeding at 1.)

¹³ The mean flow in Figure 2 represents the mean flow passing the Fair Oaks gage over the period of record considered in D 893. (D 893 at 27.) The gage data, however, do not represent the fully impaired flow in the American River at that time. The fully impaired flow is equal to the gaged flows less the difference between the actual upstream diversions and the authorized upstream diversions, assuming that not all water right permittees had made full beneficial use of the water they could take. Using the gage data is more favorable to the petitioner's case and is therefore more conservative.

the petitioner concedes is tributary flow) we can determine whether the proposed additional water would have been available to the petitioner at the time the SWRB made the finding in D 893 that unappropriated water was unavailable.

D 893 includes tabulated monthly mean flows passing the Fair Oaks gage for a 20-year period of published record. (D 893 at 27.) The flows are for water-years 1933-34 to 1953-54. (*Ibid.*) D 893 lists the demands that existed downstream of Nimbus Dam at that time, including flows required for fish conservation, salinity control, and satisfaction of existing rights below the Fair Oaks gaging station. (D 893 at 35-39.) The gross flow requirements on the American River are tabulated on page 43 of D 893. Water may be released to satisfy more than one requirement simultaneously, so that the requirements for salinity control and consumptive use within the Delta often cover fish conservation requirements and vice versa at given times. Thus, the table on page 44 of D 893 lists the net flows needed to pass the Fair Oaks gage to meet downstream needs in cubic feet per second (cfs). These requirements are shown graphically on the USBR's Exhibit 1 and Figure 2.¹⁴ The analysis in D 893 showed that unappropriated water did not exist during the months of August through October and the SWRCB approved the applications, excluding diversions during this season.

Tables 1 and 2 below list data presented in D 893, including the monthly mean of flows passing the Fair Oaks gage from July through October and the net flow required to meet downstream demands. The net flow is then subtracted from the mean flow data. The differences are then shown in the third column as "Adjusted Flow." A negative adjusted flow indicates that flows in the American River are insufficient to meet the net downstream demands. This appears to be the case in the months of August through October.¹⁵

In addition to the adjusted flow analysis described above, the discharges from Aerojet's facilities that are permitted under Regional Board Order No. R5-2002-0128 (permitted discharges) were added to Table 1 to determine whether this additional flow is sufficient to not only make up the net downstream demand deficiencies that were estimated at the time D 893 was issued, but also to provide excess flow that may be available for appropriation.¹⁶ The permitted discharges to

¹⁴ 151 cfs is required for salinity control pursuant to D 893 from April through October. (SWRCB 4, D 893 at 44.) Delta consumptive use pursuant to D 893 varies from 33.9 cfs in October to 212.0 cfs in July. Fisheries requirements require the release of 250 cfs from January through September 15, and 500 cfs for the remainder of the year. From April through September 15, reservoir operations are controlled by Delta consumptive use and salinity control requirements. From September 16 through October, fisheries release requirements control reservoir operations. Thus, like the USBR's Exhibit, our analysis also accounts for the fact that water can be used for more than one purpose. USBR Exhibit 1 specifies "Diversions from the American River (300 cfs in maximum month)"; however, this appears to reflect consumptive uses on the American River that may not have existed at the time D 893 was issued and is not considered in our analysis. Nor do we consider the more recent restrictions and release requirements displayed on Exhibit 1 as they are outside the scope of this proceeding.

¹⁵ The monthly mean data from D 893 are used in the analyses in Tables 1 and 2 as the resulting adjusted flows are most favorable to the petitioner's case. Performing the same analysis using the median of the monthly mean and minimum monthly mean result in lower, and in most cases increasingly negative, adjusted flows.

¹⁶ As discussed in Section 3.0 above, Aerojet is currently discharging 5 cfs of treated groundwater from its ARGET facility to Buffalo Creek. Under the old NPDES permit from the Regional Board, Order No. 99-113, Aerojet was allowed to discharge 8 cfs to Buffalo Creek. The new revised NPDES permit, Order No. R5-2002-0128, allows

Buffalo Creek, less conveyance losses and tributary flows,¹⁷ were added to the adjusted flow column and the results are listed in the right-hand column titled "Modified Adjusted Flow." Conveyance losses were assumed to be twenty-five percent.¹⁸ The results show that under Regional Board Order No. R5-2002-0128, the total permitted discharge to Buffalo Creek is not sufficient to cause an excess in flow in the American River beyond the demands calculated in D 893.

Month	Flow (cfs)					
	Decision 893 Monthly Mean Flow (A)	Decision 893 Net Flow Required (B)	Adjusted Flow (C = A-B)	Discharge from Aerojet (D)	Estimated Carriage Losses (25%) (E = 0.25*D)	Modified Adjusted Flow (F=C+D-E)
July	1217	585	632	20	5	647
August	355	550	-195	20	5	-180
September 1-15	312	385	-73	20	5	-58
September 16-30	312	619	-307	20	5	-292
October	518	536	-18	20	5	-3

Table 1: Adjusted American River Flow at Fair Oaks Plus Permitted Aerojet Discharge (cfs)

- A = American River Flow = Flow passing the Fair Oaks gage for a 20-year period of published record, 1933-34 to 1953-54 (D 893)
 B = Net Flow Required = Flow demands estimated in Decision 893 for fish conservation, salinity control, and satisfaction of existing rights below the Fair Oaks gaging station (D 893)
 C = Adjusted Flow = American River Flow - Net Flow Required
 D = Discharges from Aerojet = (Discharges permitted under Regional Board Order No. R5-2002-0128) - (Tributary Flow)
 E = Estimated Carriage Losses = Carriage losses in Buffalo Creek = 25% of Total Permitted Discharge from Aerojet
 F = Modified Adjusted Flow = Flow in American River in excess of Net Flow Required
 Tributary Flow = 350 gpm = 0.8 cfs

Aerojet to discharge up to 21 cfs from the ARGET and GET E/F facilities to Buffalo Creek and possibly, in the future, to Alder Creek.

¹⁷ To the extent that certain assumptions were made in order to conduct this analysis, the assumptions favor the petitioner's case. SCWC's witness testified that 350 gpm of groundwater from two wells in the ARGET system is tributary to the American River, (R.T. pp. 93-94, DFG 19b, Table 2-1) and, accordingly, we subtracted 350 gpm from the permitted discharges in this calculation. Note that in Section 7.1, we excluded all of Layer A in the WGSa and all of Aquifer A and a portion of Aquifer B in the ARGET area from our definition of new water. We do not attempt to determine the magnitude of the flows for these areas other than the 350 gpm offered by petitioner. In addition, Regional Board Order R5-2002-0128 describes a 250 gpm intermittent discharge to Sailor Bar Park pond. (SWRCB 7, Finding No. 8.) We do not have the information before us to determine how much flow Aerojet will actually discharge to the pond, rather than Buffalo Creek. For the purposes of this analysis, we assumed that the discharge to the pond was insignificant and did not include it in the calculations.

¹⁸ As described in section 3.0 *infra*, based on evidence in the hearing record, conveyance losses in Buffalo Creek are estimated to be roughly twenty-five to twenty-nine percent. (R.T. pp. 51-53, SCWC 9, p. 20) Twenty-five percent was used in this analysis because it is more favorable to the petitioner's case. Although Regional Board Order No. R5-2002-0128 states that Aerojet may discharge a portion of its effluent to Alder Creek, we assumed all the flow would be discharged to Buffalo Creek for this analysis. A discharge to Alder Creek will require construction of a pipeline, and no evidence was received regarding conveyance losses to Alder Creek.

Table 2 presents the same analyses as Table 1 using Aerojet's discharges under full-scale development, less conveyance losses and tributary flows. As described in section 3.0 above, SCWC presented testimony that Aerojet will discharge 18 cfs from the WGOU under alternative 4C in addition to the 21 cfs permitted under Regional Board Order No. R5-2002-0128. Aerojet presented conflicting testimony, however, that it will discharge only 9 cfs from the additional offsite wells proposed under alternative 4C. Because Aerojet is in charge of the groundwater treatment operation, we used 9 cfs in the calculations, instead of 18 cfs. (See discussion, *infra*, at section 3.0.) With the exception of the monthly mean figure in October, which results in only 4 cfs of potentially "available" water, under full scale development, no amount of discharge contemplated by Aerojet cures the deficiency in flows identified in D 893. In other words, Aerojet's discharge fails to create a positive flow in excess of demands implemented at the time D 893 was issued.

Month	Flow (cfs)					
	Decision 893 Monthly Mean Flow (A)	Decision 893 Net Flow Required (B)	Adjusted Flow (C = A-B)	Total Anticipated Future Discharge from Aerojet (D)	Estimated Carriage Losses (25%) (E = 0.25*D)	Modified Adjusted Flow (F=C+D-E)
July	1217	585	632	29	7	654
August	355	550	-195	29	7	-173
September 1-15	312	385	-73	29	7	-51
September 16-30	312	619	-307	29	7	-285
October	518	536	-18	29	7	4

Table 2: Adjusted American River Flow at Fair Oaks Plus Total Anticipated Aerojet Discharge (cfs)

A = American River Flow = Flow passing the Fair Oaks gage for a 20-year period of published record, 1933-34 to 1953-54 (Decision 893)

B = Net Flow Required = Flow demands estimated in Decision 893 for fish conservation, salinity control, and satisfaction of existing rights below the Fair Oaks gaging station

C = Adjusted Flow = American River Flow - Net Flow Required

D = Total Anticipated Future Discharge from Aerojet = (Discharges permitted under Regional Board Order No. R5-2002-0128) + (Anticipated Discharge from Alternative "4C") - (Tributary Flow)

E = Estimated Carriage Losses = Carriage losses in Buffalo Creek = 25% of Total Anticipated Future Discharge from Aerojet

F = Modified Adjusted Flow = Flow in American River in excess of Net Flow Required

Tributary Flow = 350 gpm = 0.8 cfs

We find that even if the treated groundwater at issue in the proceeding was not tributary to the river during the relevant time period (i.e. it is "new" water), if it had been discharged to the river at the time, it would have been dedicated to satisfying unmet demands with a higher priority than any permit SCWC might acquire. Thus, petitioner has not established that circumstances have changed since the SWRB issued the orders that serve as a basis for listing of the American River on the Declaration to justify the revision of its fully appropriated status for the months of August through October.

7.2.2 July

The American River is also listed on the Declaration for the month of July, pursuant to D 1211 and D 1108. Both decisions cite D 1098, among others, which concluded that water was unavailable in the American River watershed during the months of August through October, and in the Sacramento River downstream from Shasta Dam in the months of July and August. D 1098 added the month of July to the restricted season for the American River based on the finding that water is unavailable in the Sacramento River, to which the American River is tributary. Thus, D 1098 limited the amount of water to be appropriated from the American River to exclude the months of July through October.

D 1098 relied in part on D 893 (discussed previously for the months of August through October) and D 990. D 990 is important to the finding that water is unavailable in the month of July. In D 1098, the SWRB relied on the "Report on 1956 Cooperative Study Program," Volumes I and II and supplements, dated March 1957, which was an exhibit submitted for the SWRCB's hearing that resulted in D 990. (D 1098, p. 4.) The 1956 Cooperative Study Program commenced in May 1956, and was produced cooperatively by the USBR, DWR, and the Sacramento River and Delta Water Association. The Cooperative Study Program included a total of ten studies, based on various assumptions regarding water rights in the Delta and its tributaries. These studies included an evaluation of the monthly quantities of water available for satisfaction of these rights from flows in the Sacramento River and from Delta channels in the absence of supplemental water that is provided by the operation of the Central Valley Project's reservoirs. (Report on 1956 Cooperative Study Program, pp. 53-54.) D 990 cites USBR Study C-2BR, which assumes that the amount of water necessary for salinity control in the Delta is 1,500 cfs. Using these studies that support D 990, a decision we consider in this proceeding because it was a basis for the decisions on which the Declaration is based, we can determine whether the proposed additional Aerojet water would have been available for appropriation in July if that water had been added to the system at the time the SWRCB made the finding that no water was available for appropriation.

Study C-2BR assumed a repetition of the hydrologic conditions experienced in the 31-year period of 1924 through 1954. (D 990, p. 28) Study C-2BR indicates that, with respect to the availability of water along the Sacramento River from Shasta Dam to the Delta and in the channels of the Delta, no water is available during August and only infrequently available during July. (D 990, pp. 31-32.) USBR Exhibits 123 and 124 of the D 990 hearing record (Tables 102 and 118-1 in Study C-2BR) provide the demand of and supply available to satisfy water rights in the Delta uplands and lowlands. For July, these data show the demand of assumed riparian rights in the Delta lowlands as 225 thousand acre-feet (TAF) and Delta uplands as 150 TAF. The combined values are listed in Column 2 of Table 3. The deficit for both upland and lowland Delta water rights is calculated by subtracting the demand of the right from the available supply. These results are listed in Column 6 of Table 3. In all but four years, flow was not sufficient to meet the water right needs in the Delta.

Assuming that all of Aerojet's proposed maximum discharge of 29 cfs (less 25% conveyance losses) is new water, Table 3 shows that this water is not sufficient to make up for the deficit in the Delta for most years. The discharge from Aerojet's groundwater treatment facility less

conveyance loss in Buffalo Creek equates to roughly 1.4 thousand acre-feet (TAF) for the month of July and is listed in Column 5 in Table 3. Other studies in the Cooperative Studies report assumed a salinity control requirement of 3,300 cfs, instead of 1,500 cfs. If this salinity control requirement, which is closer to the amount of water actually needed to control salinity, had been used, the deficit in the Delta would be substantially greater than shown in Table 3. Using 1,500 cfs to satisfy salinity needs results in water being available in only four years out of 31 as indicated in Column 6 of Table 3. Using the higher salinity standard, water would no longer be available even on this infrequent basis.

1	2	3	4	5	6
Year	Demand of All Assumed Lowland Riparian Rights and Upland Rights of Local Water Users in the Delta for July (TAF)	Available Supply for All Assumed Lowland Riparian Rights and Upland Rights of Local Water Users in the Delta for July (TAF)	Total July Deficit in Delta (Uplands and Lowlands) (TAF)	Aerojet's Total Anticipated Discharge, Less 25% Carriage Losses for July (TAF)	Water Remaining in Delta in July after addition of Aerojet's Total Anticipated Discharge (TAF)
1924	375	159	-216	1.4	-214.6
1925	375	284	-91	1.4	-89.6
1926	375	225	-150	1.4	-148.6
1927	375	304	-71	1.4	-69.6
1928	375	252	-123	1.4	-121.6
1929	375	225	-150	1.4	-148.6
1930	375	229	-146	1.4	-144.6
1931	375	149	-226	1.4	-224.6
1932	375	304	-71	1.4	-69.6
1933	375	225	-150	1.4	-148.6
1934	375	195	-180	1.4	-178.6
1935	375	302	-73	1.4	-71.6
1936	375	304	-71	1.4	-69.6
1937	375	303	-72	1.4	-70.6
1938	375	375	0	1.4	1.4
1939	375	225	-150	1.4	-148.6
1940	375	258	-117	1.4	-115.6
1941	375	375	0	1.4	1.4
1942	375	375	0	1.4	1.4
1943	375	302	-73	1.4	-71.6
1944	375	252	-123	1.4	-121.6
1945	375	304	-71	1.4	-69.6
1946	375	256	-119	1.4	-117.6
1947	375	225	-150	1.4	-148.6
1948	375	296	-79	1.4	-77.6
1949	375	225	-150	1.4	-148.6
1950	375	230	-145	1.4	-143.6
1951	375	225	-150	1.4	-148.6
1952	375	375	0	1.4	1.4
1953	375	304	-71	1.4	-69.6
1954	375	244	-131	1.4	-129.6

Table 3: Water Remaining in Delta in July after addition of Aerojet's Total Anticipated Discharge, Less Carriage Losses to Buffalo Creek, (TAF)

D 1108 confirms, “[t]he entire flow of the American River and its tributaries during the months of July through October of an average year is required to satisfy downstream rights on the American River and in the Sacramento-San Joaquin Delta.” (D 1108 at 2.) Similarly, D 1082 confirms, “Consumptive uses on the American River below Folsom Dam and in the Delta and water for fish conservation and Delta salinity control require the full flow of the American River during the months of July through October.” (D 1082 at 3.)

The SWRB previously denied applications to appropriate water from the Sacramento River to which the American River is tributary, based on a water supply deficiency significantly greater than the amount of new water at issue in this proceeding, petitioner has not established that circumstances have changed since the listing of the American River to justify the revision of its fully appropriated status for the month of July.

7.2.3 Conclusion

We find that petitioner has not established that circumstances have changed since the SWRB issued the decisions that were the basis for finding the American River fully appropriated to justify revision of its fully appropriated status for the period of July 1 through October 31. Aerojet’s permitted flows under Regional Board Order No. R5-2002-0128 are not sufficient to: (1) make up the flow deficiencies found during the relevant time period; and (2) provide significant additional flow that may be available for appropriation. Even at Aerojet’s anticipated full-scale production, with the inclusion of flows from additional offsite wells under alternative 4C, the flows are not large enough to cure the deficiencies, with the exception of 4 cfs in October. The 4 cfs potentially available in October is most likely an overestimate because we did not attempt to quantify how much of the water pumped by Aerojet is new water and how much is tributary flow. In addition, the 9 cfs of treated groundwater Aerojet proposes to discharge from the offsite wells under alternative 4C is speculative because Aerojet does not have an NPDES permit to discharge the water. As stated in the Hearing Notice, this hearing addressed water discharged under Regional Board Order No. 98-113, adopted on April 17, 1998, and foreseeable revisions to the same NPDES permit only. In addition, the hearing officer reserved the right to further define and/or limit the scope, both geographic and temporal, of the water at issue. (March 6, 2002, Hearing Notice.)

8.0 OTHER CONSIDERATIONS

Although SCWC has not established changed circumstances that would justify revising the Declaration for the period of July 1 through October 31, SCWC may modify its application to exclude the period of July 1 through October 31.

The American River is tributary to the Sacramento-San Joaquin Delta, a stream system listed as fully appropriated from June 15 to August 30. The provisions of the Declaration establishing this period as the season for which the Sacramento-San Joaquin Delta is fully appropriated, however, apply only to applications for less than 1 cfs. Therefore, it is unnecessary to exclude the period between June 15 and June 30 from an application to divert 1 cfs or more from the

American River, although Term 91, discussed below, ordinarily will preclude diversions during that period.

Modification of the application to exclude the period from July 1 through October 31 would allow the SWRCB to accept SCWC's application for processing in accordance with the normally applicable procedures and requirements under the Water Code and applicable regulations. These requirements include compliance with the California Environmental Quality Act (CEQA) and the Wild and Scenic Rivers Act. In addition, as part of the application process, SCWC would need to perform a water availability analysis to demonstrate that water is available for appropriation during the modified diversion season after considering in-stream flow needs.

Legal users of water and other interested persons will have the opportunity to protest the application and present evidence during the application process. In addition, other parties may file applications to appropriate this water outside the season restricted by the Declaration. Following acceptance of an application for filing, the SWRCB provides public notice of the application, an opportunity for interested parties to file protests, an opportunity for the applicant and any protestants to negotiate a resolution of issues raised in the protests, and an opportunity for hearing if needed to resolve protest issues or to obtain information otherwise needed for action on the application. (Wat. Code, §§ 1350-1375.) The hearing provides a process for reviewing these issues by requiring extensive information gathering, and statutory procedures for public participation. (See e.g. Wat. Code, §§ 1243, 1243.5, 1257, 1258, 1330-35 and 1375 (d); Pub. Resources Code §§ 21000-21004; Cal. Code Regs., title 14, §§ 15000-15387.)

A permit to appropriate water is issued only if all statutory requirements are met, including the requirement that water is available for appropriation under the permit and that the intended use is beneficial. (Wat. Code, §1375.) Permits to appropriate water are issued subject to such terms and conditions as the SWRCB concludes will "best develop, conserve, and utilize in the public interest the water" covered by the permit. (Wat. Code, §1253.) An application for municipal supply will not be accepted unless the applicant can show it has an alternate water supply during the season listed on the Declaration.

In addition to the requirements normally applicable for water right applications, and the California Wild and Scenic Rivers Act requirements, SCWC will also need to comply with restrictions placed on diversions from the Delta or tributaries of the Delta if SCWC files an amended application. The period the Declaration lists the American River as fully appropriated, July 1st through October 31st, is also the period that generally, releases from Folsom Reservoir are greater than the inflow to Folsom, the Delta is in balance, and Term 91 conditions are in place. (R.T. pp. 104-106, USBR 2-13.) At the hearing, the USBR argued that even if the water Aerojet is pumping, treating, and discharging is "new water," allowing it to be appropriated under a new permit would interfere with existing water right holders' ability to fully exercise their permits. The USBR's Exhibits 2 through 13 show the operations of Folsom Reservoir and the American River for the period of 1990 through 2001, demonstrating that the current required flows on the American River necessitate storage releases from Folsom Reservoir. (USBR 15, p. 1.)

DWR and the USBR have the responsibility to meet flow and flow-dependent objectives in the Delta and other inbasin entitlements through releases from the State Water Project and the Central Valley Project. The Projects release stored water when natural and abandoned flows are insufficient to meet the objectives and other inbasin uses. In D 1594 and Order 81-5, the SWRCB, in order to prevent other water users from making use of releases from Project storage made for the purpose of meeting Delta objectives and other inbasin uses, imposed Term 91 as a condition of permits for 1 cfs or more issued since 1965. Term 91 provides a method of determining the availability of water for appropriation in the Delta watershed on a real-time basis. Since 1984, the first year of Term 91 implementation, water diversion curtailments have been required in every year except 1995 and 1998. The typical water diversion curtailment period is from mid-June to August 31.

As discussed in section 7.2.1, SCWC has not established that circumstances have changed since the orders were issued that serve as a basis for listing the American River on the Declaration to justify the revision of its fully appropriated status for the months of July through October. In section 7.1, we also found that the amount of water Aerojet proposes to discharge to the American River is a combination of old water and new water. While not necessary for our decision in this matter, we note that, even if SCWC had shown that circumstances have changed since the orders were issued that support the Declaration to justify a revision, that water would still generally not be available for appropriation by a new permittee in July and August because of its priority date and the inclusion of Term 91 in the permit.

9.0 CONCLUSIONS

The water at issue in this proceeding is public water of the State under Water Code section 1201. At a point where water enters the American River or a tributary thereto, it is subject to the SWRCB's permitting authority for the purpose of deciding whether to revise the Declaration to allow parties to file applications to appropriate this water.

SCWC had the burden to show that the water pumped, treated and discharged by Aerojet would not otherwise have reached the stream under current and historical conditions. Although SCWC provided uncontroverted testimony that the groundwater in the WGSA is currently not contributing to the American River, and in this reach the American River is a losing stream, SCWC failed to show that this condition existed in the relevant time period, which is when the orders were issued that support the Declaration.

We find that the American River in the WGSA was an annually losing stream during the relevant time period. SCWC, however, did not provide sufficient evidence to show whether Layer A was seasonally tributary to the American River during the relevant time period. We do not have the information in the record before us to conclude how much, if any, of the water in Layer A was tributary to the River and, therefore, we cannot conclude that water from Layer A is new water. We find further that, excluding Layer A, even if the River were seasonally gaining, groundwater at the depth and distance from the stream reach that Aerojet will pump would not have reached the River during the relevant time period and, therefore, water from Layers B and deeper may be considered new water.

For the ARGET area, we find that groundwater in Aquifers A and B, within 3,000 feet of Nimbus Dam, is tributary to the American River. SCWC did not provide sufficient evidence to show to what extent Aquifer A and Aquifer B were seasonally tributary to the American River during the relevant time period. Therefore, we cannot conclude that water from Aquifer A is new water. In addition, we find that petitioner did not provide sufficient information to show that groundwater in Aquifer B, within the 6,000-foot reach below Nimbus Dam, is not water would have reached the stream during the relevant time period and therefore cannot find it to be new water. Excluding Aquifer A and the portion of Aquifer B described above, we find that that the groundwater Aerojet will pump would not have reached the River and thus may be considered new water.

Notwithstanding the finding of new water as specified above, SCWC did not establish that circumstances have changed since the orders were issued that provide the basis for listing the American River on the Declaration to justify the revision of its fully appropriated status for the period of July 1 through October 31. If the water at issue was new and available during the relevant time period via abandonment or otherwise, it would not cure the deficiency present at that time which lead to the SWRCB finding of water unavailable. Rather, the water would be allocated in order of priority to previous surface right holders in the Basin. Thus, even though SCWC met its burden to establish that a portion of the discharged water is water that would not otherwise have reached the River in 1958 to 1964, SCWC did not demonstrate that the circumstances have changed so that this "new water" would have been available in 1958 to 1964.

SCWC may amend the season of diversion in its application to exclude the period of July 1 through October 31. This would allow the SWRCB to accept SCWC's application for processing in accordance with the normally applicable procedures and requirements under the Water Code and applicable regulations as described in section 8.0.

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ORDER

IT IS HEREBY ORDERED THAT the petition to revise the fully appropriated stream status of the Lower American River stream system to allow for processing applications to appropriate treated groundwater discharged by Aerojet-General Corporation into the American River is denied.

CERTIFICATION

The undersigned, Clerk to the Board, does hereby certify that the foregoing is a full, true, and correct copy of an order duly and regularly adopted at a meeting of the State Water Resources Control Board held on _____ 2003.

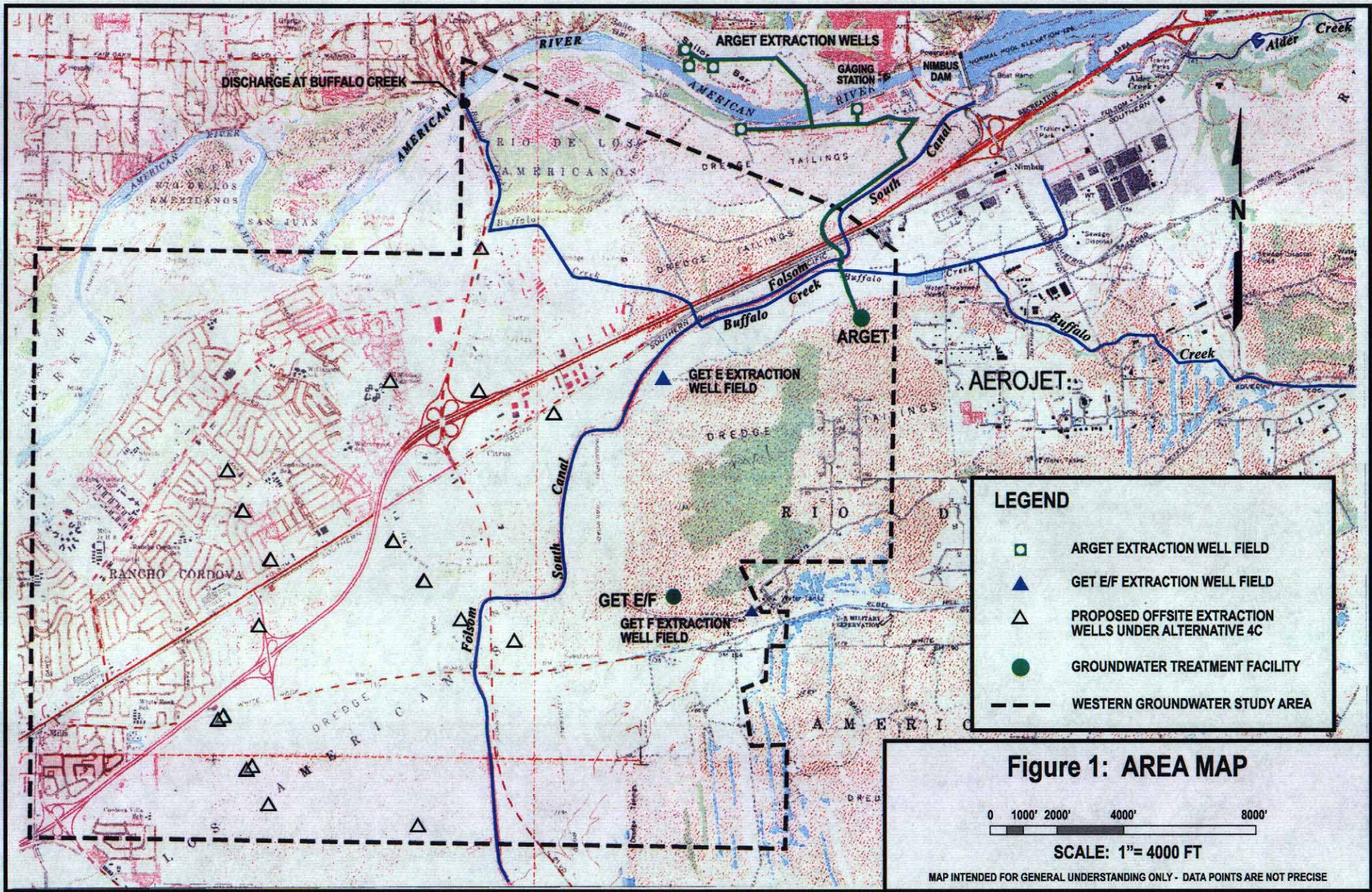
AYE:

NO:

ABSENT:

ABSTAIN:

Debbie Irvin
Clerk to the Board



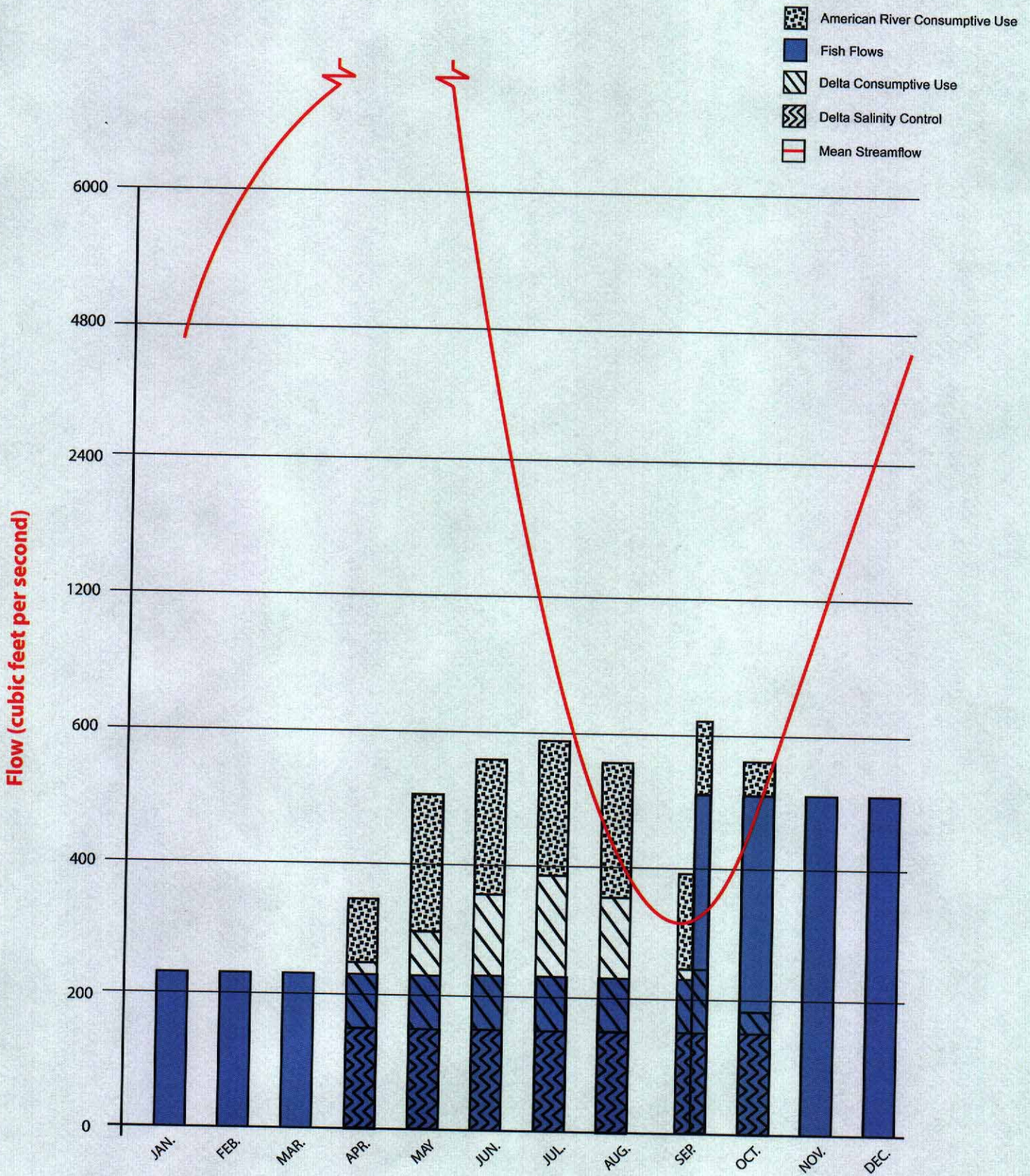


Figure 2:
 Comparison of American River Monthly Mean Flows
 (Passing Fair Oaks Gage for water years 1933-34 to 1953-54)
 to Flows Required by D 893.