

Rebuttal Testimony of Kathy Mrowka

My rebuttal testimony directly addresses certain issues raised by the Written Testimony of Rick Gilmore (BBID-201), Rick Martinez (BBID-60), Nick Bonsignore (BBID-121), Jack Alvarez¹ (BBID -0158) and Greg Young (BBID-392) and is reflective of my role as Program Manager for Enforcement. This testimony is intended to complement the issues evaluated in the rebuttal testimony of Les Grober (WR-213), and supplement the more specific issues evaluated in the rebuttal testimony of Brian Coats (WR-210), Jeff Yeazell (WR-211), and Kathy Bare (WR-216).

My rebuttal testimony specifically addresses the following alleged conclusions of Rick Gilmore:

- BBID always diverts water in June.
- BBID diverts in summer, even when flows are low and salinity is high.
- BBID can divert up to 50,000 acre-feet per annum (afa).
- There was a CH2M Hill report and a State Water Contractors complaint regarding water supply.
- There is an unlimited Delta water supply.
- There was no need to immediately stop using water after being informed that there was no water available under the BBID water right priority.
- Alternate water supplies were sought, but unavailable.

My rebuttal testimony specifically addresses the following alleged conclusions of Rick Martinez:

- Sources of water in Bethany Drain.
- No change in Old River when City of Tracy wastewater is pumped.

My rebuttal testimony specifically addresses the following alleged conclusions of Nick Bonsignore regarding the water availability analysis:

- A water availability analysis was not performed for the WSID or BBID points of diversion.
- Wastewater plant discharges were not considered.
- Large reservoir releases were not considered.

My rebuttal testimony specifically addresses the following alleged conclusions of Jack Alvarez:

- WSID diversions are largely return flow.
- Drainage is needed within WSID.
- Municipal discharges into Bethany Drain are per contract.
- Enumeration of City of Tracy water sources.
- No permit is needed to divert Bethany Drain flows.

My rebuttal testimony specifically addresses the following alleged conclusion of Greg Young:

¹ Mr. Alvarez's substantive testimony was stricken by the Hearing Officers on February 18, 2016, after I had prepared the rebuttal testimony herein. I leave the rebuttal testimony regarding Mr. Alvarez's testimony here on the assumption that WSID will offer similar testimony from Mr. Alvarez or others on rebuttal.

- 2015 Voluntary cutback program for Delta riparian diverters.

Written Testimony of Rick Gilmore

Mr. Gilmore testifies that BBID has historically always diverted water in June. Specifically, in 1931 there was water for BBID to divert. (BBID-201, p. 3 at line 11; p. 8 at line13.)

I developed the table below to evaluate this statement. The table shows BBID's diversions in various year types in and around 1931. The water supply conditions in the San Joaquin Valley in 2015 were critically dry. (WR-244 is a true and correct copy of Department of Water Resources Water Year Hydrologic Classification Indices for the combined Sacramento and San Joaquin Valley.) 2015 is the fourth year of the current drought. The pre-1914 right was developed prior to operation of the State and Federal Water Projects (Projects). Historic drought diversion practices under pre-Project conditions are evaluated in the table. The period 1931 through 1934 was selected for evaluation because Mr. Gilmore refers to 1931, and this period contains critically dry and dry water year types, as well as multi-year low flow conditions. BBID significantly reduced its June diversions from 1931 through 1934. Inasmuch as BBID reduced June diversions during 1931 through 1934, it is reasonable to assume that BBID was aware that there are times when flows are insufficient to fully serve its claimed water right.

		Year										
		Diversions in Acre-feet (af)										
	1924	1925	1926	1927	1928	1929	1930	1931	1932	1933	1934	1935
San Joaquin River Water Year Type	Critically Dry	Below Normal	Dry	Above Normal	Below Normal	Dry	Dry	Critically Dry	Dry	Dry	Critically Dry	Above Normal
March								1,176	112		820	
April	1,450		1,368		335	2,867	273	3,485	1,076	2,135	2,743	
May	3,860	1,050	4,029	4,492	4,177	3,131	3,198	1,888	2,199	2,400	1,791	2,161
June	3,740	3,627	4,685	3,235	3,426	1,619	3,387	2,469	2,114	2,035	1,502	2,785
July	4,270	4,094	4,406	3,850	3,376	3,094	3,276	2,847	2,019	1,798	2,205	2,160
August	3,050	3,441	3,180	3,014	3,556	2,662	3,071	2,652	1,903	2,200	1,883	1,845
September	2,250	1,857	2,665	1,989	1,640	2,188	2,787	1,139	1,346	1,375	1,165	1,486
October	429	118	243	157	264	409	569	140	384	748	571	398
Total	19,049	14,187	20,576	16,737	16,774	15,970	16,561	15,796	11,153	12,691	12,680	10,835
Acreage	7,500	9,000	8,976	9,000	10,500	9,181	9,200	7,853	8,150	4,800	4,780	4,595

Numeric data on diversions available beginning in 1924.

(Table sources: WR-235 [true and correct copy of California Dept. of Pub. Works, Bulletin No. 6, dated 1923, 1929, 1930, 1931, 1932, 1933, 1934 and 1935 and Bulletin No. 23, dated 1924-1928]; WR-244.)

I also found relevant information on diversions during the 1976-77 drought, which indicated that diversions reached a low of 5,900 af (monthly data not available). (WR-196, p. 5.) Therefore, BBID's diversions during the 1976-77 drought were only a fraction of its 1931 critically dry year diversions.

Mr. Gilmore testified that BBID has always diverted throughout the summer months, even when flows dropped to near zero and salinity was high. (BBID-201, p. 3 at line 13.)

The table above generally supports this statement, but also supports a finding that starting in 1931 summer diversions were reduced as compared to prior to 1931. However, the 1976-77 data suggests

that BBID may have had very limited summer water available during that drought. Water availability for the pre-1914 right fluctuates in accordance with water supply. The table does not support a finding of unlimited Delta water supply to serve BBID's claimed right.

Although summer diversions may have occurred, during low flow years such diversions were adverse to crops. In the Sacramento-San Joaquin Delta, the historic impacts of salinity can be expressed in terms of crop loss. Prior to operation of the State and Federal water projects, and the release of significant stored quantities of water to maintain Delta water quality standards established by the State Water Board (see Decision 1641, for example) (WR-231 is a true and correct copy of D-1641), Delta water quality resulted in crop losses in the BBID service area during the 1931 low flow conditions. I reviewed a salinity study found in the 1931 Sacramento-San Joaquin Water Supervisor's Report (WR-158), and noted that the lands served by BBID are within the area depicted on Plate 13 as having salinity encroachment of 100 parts per 100,000 (1 ppt or 1.968 mS/cm) and also within the area in which crop losses due to salinity were reported. (Conversion calculator: <https://www.hamzasreef.com/Contents/Calculators/SalinityConversion.php>)

The following information is taken from the 1931 study. The study states that extensive encroachment of salinity from San Francisco Bay caused damage in the Delta in 1920, 1924 and 1926, but particularly in 1924. In the spring of 1931, it was evident that the stream flow to the Delta would probably be as low, if not lower than in 1924 and that a salinity encroachment as great if not greater than in 1924 could be expected. The survey captured the crop losses due to (1) the curtailment of irrigation when the salinity of the irrigation water became too high, (2) the actual application of irrigation water of too high salinity, and (3) the abandonment of a crop, or plans for it, because of high salinity. The market value of the Delta crops estimated to have been lost because of salinity in 1931 totaled \$1,263,716. Of this amount, \$890,906, or 70 percent of the total, is the loss estimated to have resulted from curtailment of irrigation, \$357,640 or 29 percent, the loss due to actual application and use of water of too high salinity, and \$15,170 or one per cent, the loss due to destruction of permanent plantings and to abandonment of crops or plans therefor because of high salinity. The most important intangible crop loss was identified as the effects of 1931 salinity on the crops of 1932 and even subsequent years. Because of high salinity considerable acreages supporting permanent crops were not irrigated when they should have been. The study notes that perhaps as serious as the effects of non-irrigation was the reduction in future yields of all crops due to impregnation of the soil with water of high salinity and the deposits of salt. (WR-158, pp. 52-72.) 71 percent of Delta irrigated acreage was within the area affected by the 100 part salinity encroachment.

The hydrologic conditions in 2015 were the most severe on record (see, for example, the Rebuttal Testimony of Leslie Grober, Exhibit WR-213). Thus, the 1931 report findings regarding crop losses are applicable and may underestimate crop losses that would be expected in 2015 under natural flow conditions. Accordingly, under natural conditions, exercise of the pre-1914 right would likely have resulted in crop loss in 2015. It may be argued that crop loss would only occur after several months of application of highly saline water; accordingly, it would not occur during the June violation period noted in the ACL. However, the timing of crop loss is not at issue, because knowingly applying waters which will harm or kill a crop may be construed as a waste and unreasonable use of water, which is not permitted under any water right.

Mr. Gilmore testified that the location of the BBID diversion facility was changed from Italian Slough, a tributary of Old River, to the Intake Channel to the Harvey O. Banks Pumping Plant. Pursuant to a

2003 Agreement with the Department of Water Resources (DWR), BBID can divert up to 50,000 af per year on a year round basis under its pre-1914 right. (BBID-201, p. 4 at line 20; p. 6 at line 11.)

I reviewed the referenced DWR agreement (BBID-208). The water exchange agreement states that BBID is to make water available to DWR under its pre-1914 right during the period April 1 through October 31. DWR provides a like amount of water under its rights to BBID during the period November 1 through March 31. (BBID-208, p. 2, item E.) Although the Agreement states that 50,000 acre-feet may be diverted throughout the year, the Agreement is for exchange of water to provide water during the period November 1 through March 31, to allow BBID to deliver water to municipal areas within its service area outside the season of BBID's claimed pre-1914 right. The Agreement would not be necessary if the pre-1914 right covered diversions during this time period. Moreover, the Agreement states "This Agreement neither enlarges nor restricts the District's present water rights." (BBID 208, p. 6, item 8.) DWR does not have authority to adjudicate the BBID water right, and appears to have solely made an Agreement to simplify Project operations by setting forth the delivery amounts to BBID. DWR did not make a finding on the scope and validity of the pre-1914 right.

The 2003 contractual finding is substantially different than the documentation provided in the table above regarding the scope and season of the pre-1914 right. It is my understanding that the statutory method of obtaining a pre-1914 right entailed following the requirements of Civil Code sections 1410 through 1422. Civil Code section 1415 required the posting and recording of a notice that contained specified information about a proposed appropriation. Civil Code section 1416 required construction of the diversion works to be commenced within 60 days of posting the notice, and required the work to be conducted and completed with diligence. Both pre-1914 and post-1914 appropriative rights are perfected by applying water to reasonable, beneficial use. The measure of the right is the amount of water actually applied to reasonable, beneficial use, not the amount of water listed in a notice of appropriation, the capacity of an appropriator's diversion works, the amount of water actually diverted, or the amount of water authorized to be diverted in a water right permit. (*Millview County Water District v. State Water Resources Control Board* (2014) 229 Cal.App.4th 879, 890-891, 896-897; *Haight v. Costanich* (1920) 184 Cal. 426, 431; *Trimble v. Heller* (1913) 23 Cal.App. 436, 443-444; *Akin v. Spencer* (1937) 21 Cal.App.2d. 325, 328; Wat. Code, §§ 1240, 1390, 1610.)

It is also my understanding that appropriative rights must be developed with due diligence. (*Maeris v. Bicknell* (1857) 7 Cal. 261, 263; Wat. Code, §§ 1395, 1396, 1397; Civil Code, § 1416.) Under the doctrine of progressive use and development, the development of an appropriative right that was initiated before December 14, 1914, may be completed after that date without obtaining a water rights permit, provided that any increase in the diversion and use of water after December 14, 1914, is within the scope of the original plan of development, and the plan is carried out with due diligence. (*Haight v. Costanich, supra*, 184 Cal.at pp. 431-433.)

Finally, it is my understanding that a pre-1914 "claimant's use rights are limited to the season and even the time of day or week when the claimant actually used water." (*Millview, supra*, 229 Cal.App. 4th at p. 898.)

Given my understanding of the legal background, I believe it is important to understand both the scope and season of BBID's claimed pre-1914 right, in order to confirm the extent of unauthorized diversion subject to the ACL Complaint. To that end, I have identified the various contracts which BBID has entered into to sell portions of its pre-1914 water. Any diversions at locations other than the SWP Intake Channel were not considered in the ACL Complaint.

BBID relies upon its 2003 contract to divert up to 50,000 af. In reality, BBID should rely upon its historic levels of diversion shown in the table. Otherwise, BBID may divert more water than is available under the pre-1914 right. For instance, in 2014 BBID transferred water and made \$2.4 million on the water transfers. (WR-218 is a true and correct copy of BBID's Financial Statements and Independent Auditor's Report for the year ended December 31, 2014.) Transfers should be based on real water, not paper water.

Mr. Gilmore's testimony appears to be for the purpose of reducing or setting aside the penalties proposed in the ACL Complaint. The ACL Complaint identifies diversions on the Intake Channel as the basis for violations. Subsequent to issuance of the ACL Complaint, prosecution staff learned that BBID may also be providing water to other parties at additional diversion locations. The water delivery agreements are listed below. Should it be determined during the hearing that BBID delivered more water than identified in the ACL Complaint, such deliveries should be taken into consideration in determining the final ACL liability amount.

Pre-1914 Right Transfers and Exchanges

BBID Contract to Supply Pre-1914 Water to Westlands Water District

In April 2012, BBID requested that the U.S. Bureau of Reclamation (Reclamation) approve delivery of up to 5,000 afa of their pre-1914 water rights to Westlands Water District (Westlands) via the San Luis Canal. Delivery of BBID's pre-1914 water was scheduled to through February 28, 2016. (WR-197.) Conveyance of 5,000 af BBID's pre-1914 water rights through the Central Valley Project (CVP) facilities was extended through December 31, 2045 through a series of five-year Warrant Act contracts. (WR-191.)

BBID Contract to Supply Pre-1914 Water to Tracy Hills

In April 2014, Reclamation and BBID entered into a draft contract for exchange of water with BBID for Tracy Hills Water Supply Project. Under Contract 11-WC-20-0149, BBID provides up to 4,725 afa of its pre-1914 water to Reclamation during March through October, in exchange for CVP water delivered throughout the year to a portion of the Tracy Hills Development for M&I use. After operational losses of 5 percent, the CVP contract water supply is 4,500 af to Tracy Hills Development. (WR-199, p. 6; WR-198.) The pre-1914 water is delivered from the BBID pipeline into the Delta Mendota Canal at milepost 3.32R.

BBID Contract to Supply Pre-1914 Water to Mountain House

BBID contracts to provide 9,413 afa of its pre-1914 water supply to the Mountain House Project Area for M&I purposes. (WR-196, p. 4.) The water is diverted from a separate pump near the BBID pump on the Banks Intake Channel.

In determining the quantities diverted in the ACL Complaint, prosecution staff looked at whether the diversions were offset by use under other basis of right. Prosecution staff identified two potential sources of water.

Contra Costa Water District

In order to secure additional drought water supply, BBID contracted with Contra Costa Water District (Contra Costa) for a short-term water transfer of up to 4,000 af. (WR-200, p. 1) The water was to be made available through substitution, with Contra Costa using 4,000 af of water stored in Los Vaqueros Reservoir instead of taking their CVP supply from the San Joaquin-Sacramento Delta, and the Contra Costa CVP supply would then be transferred to BBID. The water would be diverted at BBID's point of diversion on the Banks Intake Channel to the Harvey O. Banks pumping facility (Banks Intake Channel). The water would be used for municipal and industrial (M&I) purposes. The environmental document for the transfer documents states that in 2014, the BBID CVP contract allocation was set to zero for agriculture and 50 percent for M&I (WR-200, Section 1.1.).

A portion of the transfer water was used in 2014. During 2015, no transfer water was made available to BBID during the period of alleged unauthorized diversion in the ACL. Transfer water releases occurred on August 4 to 7, and again on August 23 through 30. The total volume transferred was 240 af in 2015. (WR-201; WR-202; WR-203; WR-204.)

U.S. Bureau of Reclamation Contract

BBID contracts with Reclamation for a long-term Central Valley Water Project water supply. (WR-205.) When BBID consolidated with Plain View, the Reclamation contract was amended to reflect the consolidation. The contract is for 20,600 af for irrigation, and M&I uses. The contract water supply may be reduced due to hydrologic conditions. The point or points of delivery of the contract water are on the Delta Mendota Canal and other mutually agreed upon locations. (WR-205, p. 20.) The 20,600 af is comprised of 800 af for M&I and 19,800 af for irrigation. (WR-225 [true and correct copy of CVP contractors list from Reclamation Mid-Pacific Region website].) In 2015, Reclamation provided no water for agricultural users, and at least 25 of historic M&I use. (WR-206.)

BBID also banks water in San Luis Reservoir for summer water supply. In 2015, BBID was notified that there wouldn't be enough water in the Delta Mendota Canal to obtain the San Luis Reservoir water. (WR-207.)

Mr. Gilmore testifies that prior determinations of the State Water Board included references to unlimited quantities of water in the Delta. Thus, the State Water Board's determinations established the universally understood concept of the constant availability of water in the Delta. (BBID-201, p. 7 at line 3.)

Les Grober's rebuttal testimony (WR-213) addresses the technical aspects of BBID and WSID's allegations regarding water quality related to their claims of unlimited Delta flow, but such claims are not supported by modern decisions of the State Water Board regarding water availability for new projects. In three recent decisions regarding new water supply projects the State Water Board evaluated water availability in the Delta. These were Decisions 1629, 1643 and 1650 for the Los Vaqueros Reservoir Project, the Delta Wetlands Properties, and the Davis/Woodland Water Supply Project, respectively. (WR-229, WR-232, and WR-233 are all true and correct copies of these Decisions.) In all three decisions, the availability of water was calculated based on water needed to satisfy holders of prior rights and for protection of other beneficial uses. The water rights were subject to standard water right permit term 80 and other terms to protect prior rights. The projects received either term 91 or a special Delta term in lieu of term 91 where it was deemed that 91 was not adequately protective of the rights of the CVP and SWP. Of particular note is the extensive evaluation of potential impacts on riparian diverters

associated with implementation of the Vernalis Adaptive Management Plan in Decision 1641. (Decision 1641, ¶6.3.2.)

Based on my understanding of the legal framework and the Board's findings of fact in these Decisions, it is my belief that, had there been an unlimited quantity of water in the Delta, there would have been no need for the extensive evaluations of project impacts on prior rights and other beneficial uses of water found in these decisions.

In assessing the relative impacts of change petitions and new appropriations on existing water rights in the Delta, it is my understanding that the State Water Board has consistently relied on unimpaired flow data as a baseline, particularly in relatively recent history with the availability of flow data, monitoring, and modeling. In D1379, the State Water Board determined that Delta diverters in the southern Delta and near the export area had rights to divert San Joaquin River water, because under natural conditions it was questionable that Sacramento River water would have reached these areas. (WR-236, p. 24 [WR-236 is a true and correct copy of State Water Board Water Rights Order 89-08, which examined D1379].) To the degree that Sacramento River water reaches the southern Delta, the State Water Board has ruled that southern Delta diverters may lawfully divert that water only to the extent it exceeds the needs of the Department of Water Resources and the U.S. Bureau of Reclamation for export or for carriage purposes. (WR-236, p. 28.)

Later, in State Water Board Water Right Decision 1641 (D1641), the State Water Board properly approved change petitions for the San Joaquin River Agreement solely using unimpaired flow data for Vernalis. (*State Water Resources Control Bd. Cases, supra* 136 Cal.App.4th 735-745; WR-231, p. 30-34.) It is my understanding that riparian rights attach only to natural flow. (*Lux v. Haggin* (1884) 69 Cal. 255; *Bloss v. Rahilly* (1940) 16 Cal.2d 70.) As a result, for riparian diverters, the State Water Board compared the riparian channel depletion requirements only to unimpaired flows at Vernalis. (WR-231, p. 31 [WR-231 is a true and correct copy of D1641].) It did not include unlimited high-salinity inflows from the San Francisco Bay or the premise that the Delta channels "always have water." (*Id.*)

Furthermore, the BBID water right does not authorize diversion from Delta storage. The 1914 Notice of Appropriation (notice) identifies the source of water for BBID as water "flowing in Old River", at a location designated as Italian Slough. (BBID-202.) Presumably, the language in the notice is intended to distinguish water flowing downstream in Old River from backwatered tidal flows. Clearly, the notice does not identify water stored in the Delta in the winter and/or spring months as a source of supply.

Mr. Gilmore testified that CH2M evaluated the State Water Contractor's (SWC) complaint against Delta diverters on BBID's behalf. The complaint is BBID-218. CH2M's preliminary work for BBID revealed that there would be water of sufficient quality for BBID to divert for at least the entire month of June 2015. (BBID-201, p. 8 at line24.)

The CH2M work product was not entered into evidence, and Mr. Gilmore cannot attest to the SWC analytical work. Thus, Mr. Gilmore's assertion that there would be water of sufficient quality for BBID to divert the entire month of June 2015 is unsupported.

The full natural flow supply and demands analysis conducted by Division prosecution staff to determine whether water was available to divert at BBID's priority of right is consistent with Order WR 89-08 [WR-236], which finds:

Water stored for export is appropriated and is not available to Southern Delta diverters unless it is subsequently abandoned.

The following discussion pertains to water that was not stored for export. Under natural conditions it is questionable whether water from the Sacramento River would reach certain parts of the Delta. Currently water from the Sacramento River reaches the southern Delta primarily because of the action of the export pumps operated by USBR and DWR in the southern Delta. By their export pumping, DWR and USBR are turning water into the channels of the San Joaquin River, commingling it, and then reclaiming it, as authorized by Water Code section 7075. DWR and USBR have points of diversion in the San Joaquin River system. The water pulled into the southern Delta is under the physical control of the Projects, and is appropriated water. We consider the water reaching the southern Delta as a result of DWR and USBR pumping as available to southern Delta diverters, but only to the extent that it is in excess of the water required by DWR and USBR for export or for carriage purposes. (WR-236, pp. 24-28.)

Taking into consideration that San Joaquin River diverters are not entitled to Sacramento River flows appropriated by DWR and USBR, as noted in Order WR 89-08, there is no support for Mr. Gilmore's statement that there would be water of sufficient quality for BBID to divert for at least the month of June. Diversion of sufficient quality is contingent on the underlying ability to divert a specific quantity of water. During June of 2015, there was no unappropriated San Joaquin River water to divert under the priority of the BBID pre-1914 right. Furthermore, since the BBID water right is solely a tributary of Old River, any Sacramento River water used to meet Decision 1641 requirements cannot be diverted under the BBID right because it is a foreign source.

Mr. Gilmore's statement that there would be water available to divert during June is also not consistent with BBID's March 23, 2015 notification to its water users within the Byron and Bethany Service Areas that curtailment orders could be issued by the State Water Board to senior pre-1914 water right diverters as early as mid-June, 2015. (WR-218.)

In 2015, the SWP and CVP were curtailed in accordance with the date when water was deemed to be no longer available under the separate priorities of each water right held by DWR and Reclamation. During the same time period, the State Water Board approved a Temporary Urgency Change Petition (TUCP) which limited export diversions of the Projects to the minimum amounts necessary for health and safety purposes and modified certain requirements of Decision 1641 in recognition of the severity of the drought conditions. (WR-222, WR-223, and WR-224 are true and correct copies of TUCP Orders dated February 3, 2015, March 5, 2015, and April 6, 2015.) It is my opinion that Water Code section 12205 requires the integration, to the maximum extent possible, of releases from storage into the Delta for use outside the area in which such water originates with salinity control and an adequate water supply for Delta diverters. It is also my opinion that the balancing required by this provision occurred through issuance of the TUCP. The direct allocation of specific quantities of water for identified Delta uses, and the fact that such flows had to be obtained through reservoir release rather than natural flows, refutes the argument that there was unlimited Delta flow for diversion in 2015, or that State Water Board orders have recognized an unlimited quantity of water in the Delta.

Mr. Gilmore testified that BBID received the June 12, 2015 Curtailment Notice on June 15, 2015. (Exhibit BBID 219.) He understood that the 7-day certification period contained in the Curtailment Notice meant that all diversions had to cease by the end of that certification period. (BBID 201, p. 14 at line17.)

The Board staff never intended that parties receiving the Unavailability Notices would have 7 days of water availability following issuance of the notices. The June 12 Unavailability Notice plainly states that there was no water for diversion under the priority of the BBID water right as of the date of the notice: “With this notice, the State Water Board is notifying pre-1914 appropriative claims of right with a priority date of 1903 and later within the Sacramento -San Joaquin watersheds and Delta of the need to immediately stop diverting water...” (WR-38.) The notifications were issued by mail, by lyris (electronic mail service), newspaper notification, and posting on the State Water Board’s drought web site, and none of the methods provided any indication that water would become unavailable 7 days following issuance of the notices (and Mr. Gilmore cites no evidence to that effect). There is no evidence to support Mr. Gilmore’s claim that Board staff intended to give or actually gave a 7-day grace period for cessation of diversions.

Mr. Gilmore cites only Exhibit BBID 213, which is not the actual unavailability notice, but is an email from Deputy Director Barbara Evoy to me, and others. BBID did not have this email at the time that it made its decision to continue diverting during June. It obtained this document under a July 21, 2016 Public Records Act request. Accordingly, the email could not have informed BBID’s decision. More importantly, Mr. Gilmore misconstrues the plain discussion in the email, which states that a Stockton Record article is incorrect when it states that the Mountain House community can continue to divert for 7 days. The subject line is “error in article”. Inasmuch as the email points out that immediate curtailment was required, it does not support the claim of a 7-day grace period.

Mr. Gilmore testified about the efforts which BBID made to obtain an alternate water supply, and that alternate supplies were not readily available. (BBID-201, pp. 10 to 13.)

Due to the drought condition, alternate water supplies in 2015 were hard to obtain. Although the Prosecution Team previously assumed that the cost of replacement water supplies was \$250 per acre-foot, this was incorrect. In 2015, replacement water costs ranged from \$250 to \$1,000 per acre-foot depending on where water was purchased from. The going rate for water was \$650 per acre-foot. (WR-100; WR-108.)

Written Testimony of Rick Martinez

Mr. Martinez testifies that the WSID’s Bethany Drain collects irrigation return water from various sources, including municipal drainage from lands within the City of Tracy. He also testifies that there are no sources of water into the Bethany Drain from outside of WSID. (WSID-60, p. 2 at ¶ 8.)

As can be seen on Exhibit WR-165, the drainage system which eventually becomes the Main Drain or Bethany Drain (both names refer to the same facility, as the Bethany Drain is a Main Drain) extends into and serves a 2 square mile area of de-annexed lands which are part of the City of Tracy. As stated in my case-in-chief testimony, the City’s water is foreign in source. (WR-7, pp 10-12.) Drainage from the foreign waters is conveyed into the drain, pursuant to a drainage agreement between West Side and the City of Tracy. (WR-192, p. 2.4.) The drainage agreement does not provide West Side with ownership of the City’s drain water in Bethany Drain.

Mr. Martinez testifies that WSID maintains exclusive control over the Bethany Drain from its origination within the District boundaries along its entire course. Inasmuch as the drains originate outside WSID and convey foreign waters, the facts controvert this testimony. It is my understanding that the State’s

jurisdiction over appropriative rights is not restricted to water flowing in natural channels, but that the diversion of water from artificial channels is also subject to the appropriative water rights system. (*Modesto Properties Co. v. State Water Rights Board* (1960) 179 Cal. App. 2d 856, 4 Cal. Rptr. 226.) Therefore, it is my opinion that the Bethany Drain conveys water subject to appropriation.

More importantly, all waters in Bethany Drain are already taken into account in License 1381. (WR-226 is a true and correct copy of a report prepared by WSID's technical expert as part of an amendment process for License 1381; WR-227 is a true and correct copy of a Division letter confirming that the technical report is part of the public record.) As explained by WSID's consultant in 2009:

The data reported by the WSID on each Report of Licensee is based on detailed water delivery records maintained by the WSID. A copy of the WSID's 1997 water delivery records is provided in Attachment D as an example of the WSID's water delivery record keeping system. As shown in Attachment D, the WSID records daily water deliveries to each customer during each month of the irrigation season. The total deliveries for each month and for the entire irrigation season, less the quantity of Central Valley Project water purchased and used by the WSID in each month, are then reported on the Report of Licensee as the quantity of water used from the Old River.

The WSID also maintains detailed records of its pumping operations from the Old River. Attachment E contains the WSID's Daily Pumping Reports for July 1997 showing on an hourly basis which pumps were used on each day.

Attachment E to the consultant's report is the daily pump reports for the nine WSID pumps on the intake canal (WSID's intake canal is sometimes called Wicklund Cut). Both Old River flow and Bethany Drain water are pumped using the nine pumps. WSID does not have any other diversion facilities on the intake canal. Accordingly, all diversions from both sources are accounted for on the Report of Licensee.

Mr. Martinez testified that only minor amounts of treated wastewater was diverted by WSID under the 2014 Agreement from June 17, 2014 through September 19, 2014. He also testified that he observed water levels in the intake channel as well as Old River, and did not notice any change in levels of water in Old River or the WSID intake channel during 2014 wastewater diversions. (WSID-60, p. 3 at ¶ 16 and 18.)

This testimony is not supported by any dates of observation or measurements. Moreover, if only minor amounts were diverted it would be expected that water surface elevation change would be minimal.

In considering issuance of a final Cease and Desist Order, the State Water Board should take into consideration the extent of past compliance with water shortage notices. On May 18, 1977, WSID was informed that there would be no water available for its license starting on May 1, 1977. (WR-240 is a true and correct copy of a May 18, 1977, letter from the Division to diverters in the Delta notifying them of a shortage of fresh water and directing them to curtail diversions.) The Reports of Licensee document that WSID diverted 42,274 af during February through November. (WR-241 is a true and correct copy of WSID's Reports of Licensee for License 1381 including diversions in 1977.)

Nick Bonsignore

Mr. Bonsignore testified that during the depositions [of the Prosecution Team staff] he learned that the State Water Board did not perform a specific water availability analysis for either WSID or BBID that relates to the specific points of diversion for these two diverters. (WSID-0121, ¶17.)

Preparation of site specific analysis for all of the approximately 5,700 post-1914 water right holders and 7,000 Statement of Water Diversion and Use holders in the Sacramento and San Joaquin River watersheds and Delta would never be possible given the time constraints associated with timely notifying diverters that there was insufficient water available to divert. The consequence of failing to timely make such notification would be total disruption of the water right priority system.

Diverters within a watershed are interspersed, with higher and lower priority water rights located at various points within any given watershed. Under drought conditions, water availability must be determined on a watershed basis in order to ensure that all right holders are taken into consideration and that priority is protected. Evaluating water availability only on a localized stream scale ignores the demands of senior downstream diverters within the watershed. Thus, stream-based analysis provides a false picture of water availability under widespread water scarcity conditions. The State Water Board staff's analysis considered both entire watersheds and major sub-watersheds, in order to comprehensively address senior rights. Both analyses; watershed and major sub-watershed, provide a more comprehensive evaluation of water availability than a localized stream scale analysis for Delta diverters. See also rebuttal testimony of Brian Coats. (WR-210.)

Mr. Bonsignore asserts that additional water would have been available for diversion, had the Division considered wastewater treatment plant discharges. He makes particular note of the Sacramento Regional Water Plant. (WSID-0121, at ¶11; WSID-0122, at ¶4.1.1.)

Water Board staff does not consider wastewater discharges as full natural flow. The water is abandoned from the municipal treatment facilities into the stream system. Including such discharges in the drought analysis presents the following difficulties:

- The Division lacks information on the water sources entering the wastewater plants. The sources of water can be varied, including groundwater, surface flow, and reservoir releases. Depending on diversion practices, municipal water system routing times, and wastewater treatment plant routing times, even directly diverted waters may be foreign in time when they are abandoned to the stream.
- Lack of information on actual quantities abandoned during drought. This has likely changed as compared to historic practices due to urban water conservation during drought and water reuse projects.
- Lack of information on how much of each plant's discharge has previously been assigned to appropriative water rights. (See Decision 1638, for example.) (WR-230 is a true and correct copy of D1638.)
- Insofar as the water is already accounted for in the full natural supply element of the drought modeling, it is inappropriate to double count it.

Mr. Bonsignore testified that in 2015 operators of large reservoirs on major tributaries to the San Joaquin River released water from their respective projects in accordance with regulatory minimum

instream flow requirements. There were periods when these released flows were in excess of the full natural flow (FNF) amounts that the State Water Board used to quantify supply for the combined watersheds. While the availability of these excess flows, after serving their intended regulatory purpose, to any one downstream user would require a detailed analysis of legal and regulatory considerations, reservoir releases in excess of FNF represent a potential source of supply to downstream water users. (WSID-0121, at ¶12.)

Reservoir outflows are operated in two fashions: flow bypasses and reservoir releases. A flow bypass is the passage through a reservoir of incoming flow. The bypass can be set at a specific number, such as 35 cfs, and require that all incoming flow be bypassed up to the amount of the established bypass. The flow bypass is the most common method of establishing downstream flow requirements, and is outside the scope of Mr. Bonsignore's testimony. (WSID-0121.) His testimony is specific to reservoir releases.

A reservoir release is the release of water from reservoir storage. The releases are not abandoned water, but are releases made for specific purposes pursuant to the water right that allowed the storage. Reservoir storage releases are not full natural flow. Such releases are foreign in time when released. Three examples are evaluated below. These are the Friant Project and two example projects identified by Mr. Bonsignore.

A typical example of reservoir release is the release of water to serve downstream customers of the diverter. The State and Federal Water Projects release water from their storage facilities, including the Friant Project on the San Joaquin River, for downstream use by their contractors. In 2015, the Friant Project used reservoir releases to serve the Exchange Contractors through instream conveyance and downstream prior rights in the stream reach between Friant Dam and Gravelly Ford. These releases were for specific downstream purposes, and were not available to other persons. Under the water rights for the Friant Project, a 5 cfs bypass is required downstream to Gravelly Ford for use by senior right holders in the reach from the Dam to Gravelly Ford. The San Joaquin River was dry downstream of the bypass reach.

Section 5.1 of the Bonsignore report (WSID-0122) describes operation of Goodwin Dam on the Stanislaus River. On the Stanislaus River, water flows through New Melones Reservoir (a U.S. Bureau of Reclamation (Reclamation) facility), then through Tulloch Dam and Reservoir and Goodwin Dam. The latter two facilities are owned by Oakdale and South San Joaquin Irrigation Districts (Districts). Below Goodwin Dam, the Stanislaus River flows downstream to where it meets the San Joaquin River. From there, the water flows to the Delta. New Melones Reservoir is operated as a primary facility for meeting the requirements of Decision 1641 by providing flows to meet Delta criteria established by the Board. (See WR-231.) Reclamation maintains a contract with the Districts for flow routing and regarding prior rights. Depending on instream flows, the water passing through Goodwin Dam may be composed of bypassed flows, upstream reservoir releases, or any combination thereof. Insofar as the flows were obtained from New Melones Reservoir, the flows are not abandoned, but must remain instream to meet Delta outflow criteria.

Mr. Bonsignore's Section 5.1 also describes Merced Irrigation District diversions on the Merced River. Decision 979 established the instream flow regime from the uppermost dam, Bagby Dam, to the lowermost dam, Snelling Dam. (WR-228 is a true and correct copy of D979.) The Merced River flows through Bagby Dam, then Exchequer Dam, thence Snelling Dam, thence 41 miles to a confluence with San Joaquin River. All flows listed therein are for "dry" year conditions, unless there were no specific dry year flows. Under specified conditions, a minimum flow of 20 cfs is required immediately below Bagby

Dam. A minimum flow of 25 cfs is required immediately below Exchequer Dam. Downstream of Snelling Dam, the Dry year flow for June 1 through October 15 is 15 cfs as measured at the Shaffer Bridge about 43 miles downstream from Snelling Dam. Inasmuch as the flow is required to remain instream over a 43 mile stream reach, it cannot be considered unappropriated throughout this stream reach.

These three examples demonstrate that: (a) reservoir releases may not be abandoned downstream of a dam; the stream may be serving as a means of conveying water to the diverters customers or the water may be serving a particular purpose such as meeting salinity requirements; (b) reservoir releases may not result in any additional flow downstream of the required measurement location; (c) the point downstream where the releases are tallied may be too far downstream to provide water to other diverters once the release has served its identified purpose.

Greg Young

Mr. Young testified that the State Water Board failed to adjust projected demands based on the anticipated reduction in Delta demands associated with the State Water Board's "Voluntary Cutback Program for Delta Riparian Water Rights". (BBID-392, p. 3 at line 4.)

The 25 percent voluntary reduction program only occurred in 2015, and only in the Delta. North Delta diverters did not participate in the program. Only South and Central Delta diverters participated. The State Water Board accounted for demands of the top 90 percent of reported riparian and pre-1914 demand in the Delta, and the top 90 percent of reported riparian and pre-1914 demand in the Sacramento and San Joaquin watersheds by requiring monthly reporting under Informational Order WR 2015-0002-DWR (WR-30.) The 2015 demand data for these diverters was required to be timely reported in accordance with the Informational Order. All data was obtained one month in arrears (June diversion data was obtained in July). The data was evaluated by Jeff Yeazell. The program participant's changes in riparian diversion did not result in any recommended changes to the water shortage notifications.

Jack Alvarez

Mr. Alvarez testifies that in 1929 the Department of Public Works issued Bulletin No. 21, which discusses WSID diversions and confirmed that the water diverted by WSID pursuant to its license is "largely return flow from diversions farther upstream and water reaching the San Joaquin Delta from Sacramento River through Georgiana Slough and other inter-delta channels." (WSID-0158, at ¶16.)

Bulletin No. 21 actually states: "West Side Irrigation District pumps water from Old River, a branch of the San Joaquin, reaching Old River through a dredged intake canal approximately one mile long...The water in San Joaquin River is largely return flow from diversions farther upstream and water reaching the San Joaquin delta from Sacramento River through Georgiana Slough and other intra-delta channels.

Mr. Alvarez testifies that a 1924 drainage report confirms that drainage is needed within WSID to protect lands from high water tables, and notes that in 1924 water stood at less than 4 feet from the surface within WSID. (WSID-0158 at ¶13; WSID-011 at pp. 14-19.)

The following information is from the report (WSID-011).

In years previous to irrigation by WSID, water level was deep in the entire region now occupied by WSID. Very different conditions were found in 1924. Water level has risen in all the wells. Continued irrigation will cause water to raise still higher. Records are not available as to when the first raise occurred, though it is known that it occurred soon after irrigation commenced. (WSID-011 at p. 12.) In many part of the Naglee-Burk District wells would flow above the ground surface. The fact that artesian conditions are found along the highest part of the district is conclusive evidence that the water does not come from the irrigation in the Naglee-Burk District but from higher land. The WSID is the only other possible source of such water. (WSID-011 at p. 14.) The water was menacing both Naglee-Burk and WSID lands.

Mr. Alvarez states that municipal discharges into the Bethany Drain are allowed pursuant to a contract between the City of Tracy and WSID, as well as other similar contracts between WSID and other municipal and industrial properties. (WSID-0158 at ¶15.)

Only the City of Tracy contract is submitted as evidence (WSID-0012). The testimony states that the other drainage agreements between WSID and others are similar in form. Those documents were not provided, nor were the entities subject to the agreements named.

Mr. Alvarez states that the City of Tracy obtains water supplies from three sources: (1) South San Joaquin Irrigation District, (2) U.S. Bureau of Reclamation, and (3) local groundwater wells. He cites WSI-0021. (WSID-0158 at ¶22.)

The cited document is a public review draft document. Although Mr. Alvarez indicates that the document was finalized, the final version was not provided.

The City of Tracy has more than three sources of water, as identified in my testimony and related 2014 report on Tracy water supplies. (WR-7 at p. 14 and WR-193) In addition to the sources listed above, Tracy obtains pre-1914 water from Byron Bethany Irrigation District, and Reclamation contract water assigned from Banta Carbona Irrigation District, WSID, and BBID.

In describing the water in Bethany Drain, Mr. Alvarez asserts that the water is pumped from a man-made canal. Consequently, WSID has the right to use this water without a permit from the State Water Board. As such, WSID does not need to divert such water under the terms of its license, it does not need to file a new appropriation, and it does not need to provide the Board with copies of agreements entitling it to use this water. (WSID-0158 at ¶19.)

As stated in my testimony, the City's water is foreign in source. (WR-7, pp 10-12.) Drainage from the foreign waters is conveyed into the drain, pursuant to agreement between West Side and the City of Tracy. (WR-192, p. 2.4.) The drain originates outside WSID and conveys foreign waters. It is my understanding that the State's jurisdiction over appropriative rights is not restricted to water flowing in natural channels, but that the diversion of water from artificial channels is also subject to the appropriative water rights system. (*Modesto Properties Co. v. State Water Rights Board* (1960) 179 Cal. App. 2d 856, 4 Cal. Rptr. 226.) Based on this understanding, it is my belief that the Bethany Drain conveys water subject to appropriation, and thus the Draft CDO is appropriately issued.

The Bethany Drain water and any treated wastewater drawn into the WSID pumps is reported as diversions under License 1381. WSID explained its diversion reporting for License 1381 in a 2010 report prepared by West Yost Associates. (WR-226.) Although this report was initially confidential, on August

19, 2010, the confidentiality of the report was lifted and the information placed in the open file. (WR-227 is a true and correct copy.) West Yost provided a detailed example, using 1997 water delivery data. WSID records daily water deliveries to each customer during each month of the irrigation season. The total deliveries for each month and for the entire irrigation season, less the quantity of Central Valley Project water purchased and used by WSID in each month, are then reported on the Report of Licensee as the quantity of water used from Old River. (WR-226, p. 3.) Attachment E of the West Yost report is the 1997 daily pump reports for WSID pumps 1 through 9. (WR-226, Attachment E.) Inasmuch as these pumps are used for all diversions and there are no other WSID pumps, the diversions recorded by the pumps would include any diversion of return flows from the Bethany Drain and any treated wastewater diverted from Old River. The data considered in determining the quantities for amended License 1381, issued as a result of a partial revocation action, is inclusive of all sources diverted by the pumps. No conjunctive use of surface water and groundwater was claimed on the Reports of Licensee. (WR-226, Attachment C.)