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March 23, 2011

VIA U.S. Mail and jwatts@waterboards.ca.gov

Jennifer Watts
State Water Resources Control Board
1001 I Street
Sacramento, CA 95812

RE: Petition for Reconsideration of Investigation Order for the Merced Irrigation District Merced River Hydroelectric Project, Federal Energy Regulatory Commission, Project No. 2179

Dear Ms. Watts:

This firm represents the Merced Irrigation District ("Merced ID") in its Petition for Reconsideration of Investigation Order WR 2011-0003-EXEC ("Order") for the Merced River Hydroelectric Project, Federal Energy Regulatory Commission, Project No. 2179 ("Project"). We respectfully request that the SWRCB reconsider the Order for the reasons cited in the Petition for Reconsideration and for the following reasons:

1. Following a meeting between Merced ID representatives and Mr. Tom Howard, Chairman Charlie Hoppin (by telephone), and Vice Chair Frances Spivey-Weber (by telephone), Merced ID was informed that any communications between Merced ID and the SWRCB board members and staff would be illegal ex parte communications. This action by the SWRCB is without precedent and is highly questionable. Despite repeated attempts for an explanation, none has been given to date.

The problem this creates is that it makes it impossible for Merced ID to work with SWRCB staff to revise the order in a manner that makes both economic and efficient sense for all involved. The proposed studies requested in the Order contain a number of inconsistencies and are unworkable. The inability to meet with staff requires unnecessary staff time in responding to notices and appearing before the board—time that could be better spent addressing the proposed studies. As an example, the Order requires several studies that are impossible for Merced ID to perform given the time constraints in the Order (see discussion below). Because of the ex parte restrictions, Merced ID and staff are unable to meet and agree on an acceptable time schedule. The prohibition on communications also

eliminates the ability of Merced ID representatives to consult with SWRCB staff on current, ongoing water quality studies. Depending on the outcome of FERC's determination for second year studies, additional consultation with SWRCB staff may be required. Such consultation will also prohibited by the SWRCB's current position.

2. Many of the studies are not needed for the water quality certification and cannot be justified. For example, the Order requires Merced ID to sample non-anadromous fish for the analysis of tissue mercury concentrations. Numerous studies conducted as part of the SWAMP program, by Merced ID, and others have conducted fish tissue analysis for mercury. The studies all found detectable levels of mercury in fish tissue. The mercury is the result of historic gold mining and processing that occurred throughout the region and is not related to project operations. Additional studies would not inform the SWRCB as to actions associated with the release or methylization of mercury nor would they provide any information useful for conditioning project operations pursuant to a water quality certification.

As was pointed out by Merced ID in 2009 while responding to a study dispute filed by the SWRCB, the SWRCB has not demonstrated the need for information regarding bioaccumulation given that the SWRCB was at the time involved in a 2-year bioaccumulation assessment in Lake McClure and Lake McSwain reservoirs to gather information regarding human health hazards related to mercury in fish. Merced ID, outside of relicensing, gathered bioaccumulation data in Lake McClure and Lake McSwain reservoirs to supplement the SWRCB's study and provided that data to the SWRCB. Given that the Merced River is currently listed as impaired for mercury, the value of additional information regarding mercury is unclear. (Merced ID, Applicant's Comments and Information Regarding Study Disputes, October 30, 2009.)

FERC's determination on the study disputes filed by the US Fish and Wildlife Service, National Marine Fisheries Service, and the SWRCB even concluded that a bioaccumulation study was not needed. "MID is not proposing to alter project operations, to increase water fluctuations, or mobilize substrates. Therefore, as proposed, the project is not performing any actions associated with the release or methylization of mercury. For the reasons cited above, we maintain that a study of mercury bioaccumulation is not warranted." (FERC, Director's formal study dispute resolution determination, December 22, 2009, p. 6.)

More recently, the water quality certification for the Oroville Facilities (FERC Project No. 2100) found that operation of the project did not contribute to methyl mercury concentrations in fish, and on that basis, the board reserved authority to conduct studies, and,

if necessary, develop a methyl mercury management plan if data indicates that reservoir or other aspects of the power operations increase mercury methylization rates. (Order WQ 2010-0016, p. 42.)

3. The studies ordered are duplicative of past and ongoing studies. Water quality in the Merced River and the San Joaquin River has been extensively sampled yet the Order inexplicably, and without justification, requires even more sampling. Not only would the studies in the Order produce no useful information, the results would not indicate how project operations affect the constituents being studied. For example, the hydroelectric project has no effect on flows or water quality emanating from the Northside, Garibaldi, and Livingston Canals, yet the Order would require sampling at each of these locations even though they are outside the project boundary. Other sampling locations identified in the Order are far outside the project boundaries and are affected by agricultural return flows, some of which is from outside Merced ID's service area, municipal runoff, groundwater accretions, and other sources.

We hereby incorporate by reference the following documents and reports:

- Monitoring and Reporting Program Plans prepared under the Irrigated Lands Regulatory Program pursuant to the Conditional Waiver (Order R5-2006-0053) and Orders R5-2008-0005 and R5-2003-0827 and submitted by the Westside Coalition, the East San Joaquin Water Quality Coalition, the Merced, Turlock, Modesto, Oakdale, and South San Joaquin irrigation districts, as well as any other dischargers within the watershed
- Any and all monitoring and reporting data submitted by any discharger in the watershed pursuant to a NPDES permit and/or WDR
- The results of the Surface Water Ambient Monitoring Program (SWAMP) Lake Study of Bioaccumulation in Sport Fish at http://www.waterboards.ca.gov/water_issues/programs/swamp/lakes_study.shtml
- The results of monitoring conducted for the Central Valley Pesticide TMDL and Basin Plan Amendment at http://www.waterboards.ca.gov/centralvalley/water_issues/tmdl/central_valley_projects/central_valley_pesticides/monitoring/index.shtml
- The results of water quality studies found at http://www.waterboards.ca.gov/centralvalley/water_issues/water_quality_studies/
- The results of any pertinent TMDL studies in the Merced and San Joaquin rivers at http://www.waterboards.ca.gov/centralvalley/water_issues/tmdl/central_valley_projects/index.shtml
- The following documents prepared by Merced ID and filed with FERC in regards to the relicensing of the Project. Copies of these documents may be found on the

Project relicensing website at http://www.merced-relicensing.com:

- Merced ID, Relicensing Pre-Application Document, November 2008
- FERC, Scoping Document 2 for the Merced River Hydroelectric Project, April 17, 2009
- Merced ID, Technical Memorandum, Water Quality 2008 Progress Report, April 2009
- Merced ID, Relicensing Revised Study Plan, August 2009
- Merced ID, Interim Technical Memorandum 2-3, Water Quality, February 2011 (including attachments)
- Merced ID, Technical Memorandum 2-4, Water Temperature Modeling, March 2011 (including attachments)

Because Merced ID has not yet filed an application for 401 water quality certification, the studies ordered by the SWRCB are premature. The time for requesting additional studies is following the submittal of the application after staff has had an opportunity to review the application and identify additional information needs. Furthermore, Merced ID recently filed with FERC its first year study report, and FERC has yet to make a decision regarding what additional studies, if any, it will require of Merced ID. Merced ID anticipated the need for additional water quality sampling which was included in its Water Quality Study, Study 2.3, submitted as part of the Revised Study Plan:

> Merced ID will review the results of historic water quality data and of Merced ID's 2008 and 2010 water quality sampling immediately upstream of Crocker-Huffman Diversion Dam with interested and available Relicensing Participants including the SWRCB. If Relicensing Participants collaboratively agree that the release of a constituent of interest from the Project has a reasonable potential to have a significant cumulative effect on the parameter when taken in combination with potential releases of that constituent of interest downstream of Crocker-Huffman Diversion Dam to Snelling Road Bridge, Merced ID will collaboratively develop a focused study to assess the level and significance of the cumulative effect for that parameter in that geographic area, file the study proposal with FERC, and perform in 2011 the study approved by FERC. Merced ID will include the results of the study in the draft and final license application.
>
> (Merced ID, Relicensing Revised Study Plan, Water Quality Study 2.3, August 15, 2009, p. 17.)

4. The scope of the studies ordered exceeds the scope of section 401 of the CWA and is being used to support other programs, not related to the hydropower project licensed by FERC. The Order requires Merced ID to sample water quality for Group A pesticides, boron, pyrethroids, suspended sediment, *E. coli*, DDT and DDE, none of which are discharged by the Project. All of these constituents are have been identified as impairing beneficial uses in the Merced River and the San Joaquin River and fall under the state's TMDL programs. The Order even acknowledges that the information obtained through the Order "may also be useful for purposes of water right administration, to inform the review of and potential amendments to the Bay-Delta Plan, and for the preparation of Total Maximum Daily Load (TMDL) amendments to the Water Quality Control Plan for the Sacramento and San Joaquin River Basins (Basin Plan)."

The Order even requires sampling as far away as Vernalis (San Joaquin River at Airport Way). Even the water quality certification for the Oroville Facilities (FERC Project No. 2100) did not extend to the Delta, despite the obvious connection between the project, the Delta, and the State Water Project. In response to comments on the draft water quality certification the SWRCB stated:

> CFWU raises a number of issues related to State Water Project water transfers and associated impacts to the Delta, and alleges that the water quality certification should address these Delta points of diversion and rediversion. The diversions CFWU discusses are not part of the hydropower project licensed by FERC.
>
> (SWRCB, Response to Comments on the January 21, 2010, Draft Water Quality Certification, July 9, 2010, p. 30.)

5. The actions by the SWRCB may show a lack of good faith. FERC's Final Study Plan Determination, as amended, issued on December 22, 2009, included a Water Quality Study. With regards to DO monitoring, Merced ID and SWRCB consulted with one another and agreed to a modification of the study to sample the Merced River at times that were more appropriate. In a letter filed with FERC on April 6, 2010, Merced ID informed FERC of the study plan modification and stated that if "any DO problems occurred, Licensee [Merced ID] and the SWRCB would discuss the need to install continuous DO recorders in spring 2011, or another approach that is more focused." (Exhibit A.) The Order at paragraph 4 orders Merced ID to conduct continuous DO monitoring for 2-week periods beginning in 2011 and continuing through 2013 in contradiction of the prior agreement. At no time was any representative of Merced ID contacted about the need for additional monitoring.

6. The Order mischaracterizes the current state of instream flow studies on the Merced River when it quotes a letter from the San Joaquin River Group Authority at page 7. That letter was responding to a 2008 report from the California Department of Fish and Game that was based on a draft 1994 report. In response to that report, Merced ID sent a letter to SWRCB Chair Tam Doduc outlining the extensive changes in instream flows in the Merced River since the 1994 study. (Exhibit B.) The letter points out the considerable changes that have occurred in the Merced River since 1994.

7. Many of the studies identified in the Order would be impossible to perform either because the deadlines in the Order cannot be met or because the studies would potentially violate endangered species laws. The Order requires completion of the "MOU studies" by February 1, 2013. This date is impossible to meet as the federal and state permits required to do the studies have not been obtained despite having submitted timely applications. (An ESA Section 10 permit (Permit 14685) was issued to Mr. Dave Vogel of Natural Resource Scientists, Inc. by NMFS on August 24, 2010. Mr. Vogel is no longer working for Merced ID, and the district is attempting to have the permit transferred to a different consultant rather than re-apply for a new permit.) Had Merced ID been able to discuss this issue with staff, this discrepancy could have been easily resolved. Many of the identified study components—such as electrofishing steelhead, extracting tissue samples from *O. mykiss*, and collecting *O. mykiss* for fish health assessment studies—are prohibited activities and would violate the terms and conditions of the existing scientific collection permit. The permit allows for only limited indirect mortality from handling and no direct mortality. Any changes to the study would require reconsultation with NMFS and an amendment to the permit, further delaying the studies.

For the above reasons and those outlines in the Petition for Reconsideration, Merced ID respectfully requests that the SWRCB reconsider the Order and that it be dismissed in its entirety.

Very truly yours,

MASON, ROBBINS, BROWNING & GODWIN

ARTHUR F. GODWIN
AFG/db
cc: Tom Howard, SWRCB
Bryan Kelly, Merced Irrigation District

EXHIBIT A

April 6, 2010

Electronically Filed (E-File)

Honorable Kimberly D. Bose, Secretary
Federal Energy Regulatory Commission
888 First Street, NE
Washington, DC 20426

Subject: Merced River Hydroelectric Project
FERC Project No. 2179 - California
Water Quality Study

Dear Secretary Bose:

On September 14, 2009, the Federal Energy Regulatory Commission (FERC) issued a Study Plan Determination (FERC's Determination) for Merced Irrigation District's (Merced ID) Merced River Hydroelectric Project (FERC Number 2179). FERC amended its Determination on September 14 and 17, 2009, and on December 22, 2009.

FERC's Determination, as amended, included a Water Quality Study (Study). Step 3 in the Study pertains to continuous dissolved oxygen (DO) monitoring and states:

> ***Timing of Sampling Events.*** *Continuous DO monitors will be deployed for a minimum of 14 days in the late summer low flow season (late August/early September). If collaboratively agreed to by Merced ID and the SWRCB, Merced ID will install and maintain continuous dissolved oxygen recorders for 14 days during spring and/or fall low flow periods upstream and downstream of Project reservoirs, below PG&E's Merced Falls Dam, in the Merced River immediately upstream of the Crocker-Huffman Diversion Dam impoundment, and in the Merced River immediately downstream of Crocker-Huffman Diversion Dam. Additional DO data collection will also be undertaken during the spring and fall when flow releases from the Project reservoirs are not being made to provide for irrigation water demand. The exact timing of sampling events will be decided in consultation with the SWRCB. Within 30 days after consultations, Merced ID will file a study schedule with FERC for approval.*

With regards to the spring continuous DO monitoring, Merced ID consulted with the State Water Resources Control Board (SWRCB) on March 2, 2010, and Merced ID and the SWRCB agreed since the water temperatures in the Merced River in spring are cold, low DO concentrations were unlikely to be an issue. Therefore, it was agreed that in lieu of continuous DO monitoring, Merced ID would collect a spot DO reading twice in one day (around noon and midnight) during the week of March 8, 2010. Samples would be taken in the Merced River upstream of Lake McClure, in McSwain Reservoir downstream of New Exchequer Powerhouse, in Pacific Gas and Electric Company's (PG&E) Merced Falls Reservoir downstream of McSwain Powerhouse, and in the Merced River downstream of PG&E's Merced Falls Powerhouse. If it was found that any

Merced Irrigation District
744 West 20th Street
Merced, CA 95340

DO problems occurred, Licensee and the SWRCB would discuss the need to install continuous DO recorders in spring 2011, or another approach that is more focused. Merced ID advised FERC's Relicensing Manager of this agreement via e-mail on March 2, 2010, and conducted the sampling.

With regards to the timing of the late summer and fall continuous DO monitoring, Merced ID consulted with Relicensing Participants, including the SWRCB, during a scheduled March 25, 2010, conference call. It was agreed that Merced ID would perform:

- Summertime continuous DO monitoring for 14 days including the last week in August and the first week in September 2010
- Fall continuous DO monitoring for 14 days in late October or in the first two weeks in November 2010. The fall DO monitoring period would coincide with the earliest time period during which irrigation deliveries and fall salmon migration flow releases are not occurring.

Merced ID and the SWRCB also agreed that Merced ID would perform the summer and fall 2010 continuous DO monitoring at five locations: 1) in the Merced River immediately upstream of Lake McClure; 2) in McSwain Reservoir immediately downstream of New Exchequer Powerhouse; 3) in PG&E's Merced Falls Reservoir immediately downstream of McSwain Powerhouse; 4) in the Merced River immediately downstream of PG&E's Merced Falls Dam; and 5) in the Merced River immediately downstream of Crocker-Huffman Diversion Dam.

In accordance with the FERC-approved Study, the above DO monitoring scheduling information is hereby provided to FERC for approval.

In addition, Merced ID notes that the FERC-approved Study requires Merced ID to conduct water chemistry sampling "*during the late summer low flow season (late August/early September). The low flow sampling in the vicinity of the Project should be conducted when irrigation deliveries are not occurring.*" Irrigation deliveries occur continuously from March through October of each year, so irrigation deliveries occur for the entire summer (i.e., there is no summer low flow season when irrigation deliveries are not occurring). During the March 25, 2010, conference call, Merced ID and the SWRCB agreed the summer low flow season water chemistry sampling would occur in the late August/early September 2010 period, as stated in the study plan and which overlaps with the summer continuous DO monitoring period. The SWRCB understood that irrigation deliveries would occur during the sampling period.

If you have any questions regarding this matter, please contact me at (209) 722-5761.

Sincerely,

Geoffrey Rabone

Geoffrey Rabone
Director of Regulatory Compliance and Government Affairs (Water)
MERCED IRRIGATION DISTRICT

cc: Matt Buhyoff, FERC DC
Jennifer Watts, SWRCB
Relicensing Participants (via e-mail)

EXHIBIT B

MERCED IRRIGATION DISTRICT

August 28, 2008

Ms. Tam M. Doduc
State Water Resources Control Board
1001 I Street
Sacramento, CA 95814

RE: May 27, 2008 Instream Flow Recommendations by the Department of Fish and Game Pursuant to Public Resources Code Section 10000-10005

Dear Chair Doduc:

The Merced Irrigation District (Merced ID) recently became aware of a memorandum from Donald Koch, Director of the Department of Fish and Game (DFG), to you concerning 21 streams and watercourses which DFG identified as needing minimum instream flows in order to assure the continued viability of stream-related resources.

The discussion concerning the Merced River on page 24 of the memorandum contains a number of factual errors and the recommended flows are based on a draft 1994 report[1] that has long since been disfavored. Furthermore, the report leaves one with the impression that the Merced River lacks instream flows—such a statement is far from accurate as the Merced River has a number of flow requirements, both regulatory and by cooperative agreement, that are intended to protect and enhance the Merced River's resources. The factual errors in that letter are more than troubling because two of the flow requirements on the Merced River were actually negotiated with DFG, one quite recently. The Director should know of these.

As DFG admits, the "recommendations may not reflect the most current understanding or scientific methods due to the development of new assessment tools, completion of additional studies, newly proposed developments, and/or settlement agreements." While DFG suggests that the instream flow recommendation can still be used to supplement current administrative records, Merced ID believes this material is so out of date and inaccurate that use of these recommendations to supplement the record[2] serves no useful purpose and indeed, because of its inaccurate portrayal of conditions on the Merced River, is prejudicial to the interests of all beneficial uses of the Merced River, including environmental uses. Below are some of the errors we have identified in this memorandum:

[1] While the draft report is dated 1994, one can only assume the data to support the report was collected in prior years.
[2] Merced ID is not sure what administrative record DFG is intending to supplement.

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Statement of "Degraded" Habitat
The sentence concerning "degraded" habitat in the Merced River is incorrect, out of context, and not reflective of present-day conditions. During drought years in the late 1980s and early 1990s, profuse water hyacinth growth in the lower Merced River encompassed large portions of the channel's wetted perimeter and created problems for upstream and downstream salmon passage. Water hyacinth was so thick in the river channel that DFG biologists had to push their boat through the vegetation to conduct their annual salmon spawning ground surveys. This condition was the primary reason the Merced River was historically characterized by DFG as possessing degraded fish habitat. An aggressive water hyacinth eradication program by Merced County since that time eliminated the problem. Also, the modern-day instream flow regime is higher than practices in place during the 1980s (discussed below). Therefore, the DFG statement is misleading to the point of untruthfulness because those conditions no longer exist in the Merced River.

Premise of Historical Presence of Steelhead and Spring-Run Chinook in the Merced River
There is no empirical evidence to support the presence of steelhead production in the lower Merced River. The available evidence indicates that the lower Merced River could not support a sustained steelhead population. Steelhead production has never been documented to have occurred in the Merced River pre- or post-dam construction of New Exchequer. For example, the DFG's 1995 report to the U.S. Congress stated:

> "Just prior to the construction of Friant Dam, there were no steelhead populations in the upper mainstem San Joaquin River, Merced, Tuolumne, and Stanislaus rivers."

Additionally, DFG's "Central Valley Salmon and Steelhead Restoration and Enhancement Plan" states:

> "Steelhead were probably never very abundant in any of the drainages except the Sacramento River."

Although small numbers of rainbow trout have been found in the upper-most reach of the lower Merced River, the available evidence suggests that these fish originated from the Calaveras Trout Farm near Crocker-Huffman Dam. Rainbow trout and brook trout are known to escape from that hatchery facility into the lower Merced River. This is attributable to the facility's Merced River water supply intake and the hatchery permitted discharge reentering the Merced River. Furthermore, hatchery rainbow trout from the trout farm have historically been planted by DFG in Merced River reservoirs (e.g., McSwain and McClure) and planted trout are known to have moved downstream through the reservoirs.

Importantly, the normal freshwater life history pattern for steelhead does not correspond well with naturally-occurring conditions in the lower Merced River. Because the Merced River is the southern-most range for Chinook salmon, the freshwater life cycle timing for Chinook salmon is marginal because of warm water conditions in the late spring, summer, and early fall. Water temperatures measured at various locations in the Merced River, including the inflow to Lake

McClure, have empirically documented this fact. During the summer months, nearly the entire lower Merced River naturally possesses very unsuitable or even lethal conditions for steelhead because of high ambient air conditions causing warm riverine water. Although water temperatures would be suitable for steelhead egg incubation during the winter, water temperatures during the late spring and early summer would be lethal to incubating eggs which is probably a reason why steelhead reproduction has never been documented in the lower Merced River.

Although the possible presence of spring-run Chinook salmon in the Merced River prior to construction of dams is debatable, the present-day conditions do not provide the necessary habitats to support spring-run Chinook production. Measurements of water temperatures in the Merced River upstream of Lake McClure provide empirical evidence that natural conditions (without dams) in that region would be lethal to adult and other life stages of spring-run. Chinook attempting to hold over in the river during the summer would perish and conditions would be lethal to salmon eggs in the late summer and fall.

Additionally, water temperatures measured downstream of Crocker-Huffman Dam demonstrate that spring-run Chinook eggs would also perish during late summer and early fall (the normal spawning time of spring-run salmon) when water temperatures exceed 56° F. Water temperatures in the lower Merced River do not cool naturally to tolerable levels for fall-run Chinook salmon until late October or, during poor water conditions early November. Because spring-run Chinook salmon spawn weeks or even months earlier than fall-run Chinook, spring-run could not successfully reproduce in that area.

Recommended Merced River Instream Flows

The DFG recommended instream flows for the Merced River based on a draft flow study that was never finalized or vetted to the public by DFG. Our understanding is that DFG did not complete the report because the study was based on methodologies now known to be invalid. Additionally, DFG acknowledged that its draft 1994 report did not account for water temperature issues that would be affected by an altered flow regime. DFG and Merced ID are presently participating in a water temperature modeling project, (part of the relatively recent agreement between DFG and Merced ID) for the Merced River and the San Joaquin basin and it would be inappropriate to recommend changes in present-day instream flows until those modeling efforts and other measures described below are complete.

The topic of appropriate instream flows for salmon in the Merced River is being evaluated in several cooperative projects by DFG and Merced ID. Since DFG's 1994 draft study report, representatives of Merced ID and DFG have regularly consulted on potential actions to benefit fishery resources (primarily fall-run Chinook salmon) in the Merced River. These consultations focused on: 1) providing appropriate instream flows for salmon upstream migration, spawning, and egg incubation during the fall, 2) providing interim instream flow improvements for juvenile outmigration, and 3) completing studies on all freshwater life phases for salmon, including improved water temperature management for aquatic resources in the lower Merced River.

As a result of those meetings, MID and DFG agreed upon an increase in flows during the fall to improve the timing and magnitude of instream flows to benefit Chinook salmon upstream migration and spawning. DFG and Merced ID also agreed on interim increased flows during a 30-day period in April and May. This action is expected to benefit the downstream migration of juvenile salmon from the Merced River through improved habitat conditions and increased survival. These Merced River instream flows are integrated with the ongoing Vernalis Adaptive Management Program.

Furthermore, DFG and Merced ID jointly developed and agreed upon a formal 10-year study program to determine the potential factors that may limit salmon production in the Merced River. This program is designed to evaluate the habitats necessary for increased salmon production by assessing the needs for each freshwater salmon life stage (i.e., upstream migration, spawning, egg incubation, fry and juvenile rearing, and outmigration). The joint study program defines the objectives, basic experimental design, and the responsibilities for study implementation. The studies and instream flow scheduling are coordinated with other studies throughout the San Joaquin basin and the Delta. Components of this program are presently underway. The completion of the 10-year program is intended to identify the long-term instream flow and other needs of salmon in the Merced River. To facilitate the studies, the parties have established the Merced Management and Technical Advisory Committees; the latter committee establishes and coordinates study protocols, study amendments, funding issues, and information sharing and exchange.

For the foregoing reasons, DFG's 1994 instream flow recommendations are not relevant to present conditions in the Merced River. Also, it is premature to recommend specific instream flows until DFG and Merced ID have completed their joint studies.

DFG's memorandum implies that there are no minimum instream flows for the lower Merced River. On the contrary, there are a variety of requirements and agreements concerning reservoir operations that affect flows in the lower Merced River. These requirements are described below:

Federal Energy Regulatory Commission (FERC)
Merced ID's FERC license (Project 2179) associated with the construction of the New Exchequer Project requires Merced ID to provide water for both instream fishery enhancement and to provide up to 15,000 acre feet of water to the Merced National Wildlife Refuge. Merced ID is required by its FERC power license, issued on April 8, 1964, to release Project water to the Merced River below the Project for fish enhancement. The FERC fish flow schedule is divided into two (2) categories, a normal year release schedule and a dry year release schedule. A "Dry Year" is defined in the FERC license as a year in which the forecasted April 1 through July 31 unimpaired runoff, as published in the May 1st bulletin of the California Department of Water Resources (CDWR) for the station, "inflow to Exchequer" is less than 450,000 AF. A "Normal Year" is defined by FERC as a year in which the forecasted April 1 through July 31 unimpaired runoff, as published in the May 1 bulletin of the CDWR for the station "inflow to Exchequer" is more than 450,000 AF. In the "Normal Year" release schedule, 43,734 AF of Project water is released annually to the Merced River downstream of the Project. The "Dry Year" release schedule totals 33,024 AF annually. The monthly flows provided under this FERC license are provided in Table 1.

Davis-Grunsky Agreement

In October 1967, Merced ID executed a contract with the State of California, negotiated by DFG and other state agencies, known as the Davis-Grunsky ("DG") Agreement. The DG contract provides for Merced ID to maintain continuous flow of between 180 and 220 cfs in the Merced River spawning area each year during the period October 31 to March 31. The Merced River spawning area is described as a 20 mile (+/-) reach of the Merced River between the Crocker-Huffman Diversion Dam and Shaffer Bridge (Oakdale Road). Annual DG flows for fish enhancement total from 54,269 to 66,326 AF. The monthly flows are provided in Table 1:

Table 1. Annual FERC flows and Davis-Grunsky flows in the Merced River for fish enhancement.

Month	FERC (Normal/n)		FERC (Dry/d)		Davis -Grunsky		TOTAL FLOWS (n)		TOTAL FLOWS (d)	
	CFS	AF	CFS	AF	CFS	AF	CFS	AF	CFS	AF
Jan	75	4612	60	3689	180–220	11068–13527	180-220	11068-13527	180-220	11068-13527
Feb	75	4165	60	3332	180–220	9997–12218	180-220	9997-12218	180-220	9997-12218
Mar	75	4612	60	3689	180–220	11068–13527	180-220	11068-13527	180-220	11068-13527
Apr	75	4463	60	3570		0	75	4463	60	3570
May	75	4812	60	3689		0	75	4612	60	3689
Jun	25	1488	15	893		0	25	1488	15	893
Jul	25	1537	15	922		0	25	1537	15	922
Aug	25	1537	15	922		0	25	1537	15	922
Sep	25	1488	15	893		0	25	1488	15	893
Oct 01-15	25	744	15	446		0	25	744	15	446
Oct 16-31	25	2380	60	1904		0	75	2380	60	1904
Nov	100	5951	75	4463	180–220	10711–13091	180-220	10711-13091	180-220	10711-13091
Dec	100	6149	75	4612	180-220	11068–13527	180-220	11068-13527	180-220	11068-13527
Total		**43938**		**33024**		**53912 - 65890**		**72161-84139**		**67151-79129**

In terms of actual Project operations, the higher of the two instream flow requirements is implemented for a given month. DG flows are not linked to water year types.

Cowell Agreement Diversions

To meet prior water rights, Merced ID must provide water downstream of Crocker-Huffman Dam for diversion from the river at private ditches (Cowell Agreement). The flows required to meet the Cowell Agreement are provided in Table 2. In order to satisfy the flow requirements and the Cowell Agreement, Merced ID operates to a target flow below Crocker-Huffman Diversion Dam equal to the Cowell Agreement flows plus the FERC/Davis-Grunsky flow requirement. The flow below Crocker-Huffman Diversion Dam must equal the greater of the Davis-Grunsky and FERC flows plus the Cowell Agreement.

Table 2. Merced ID minimum flow (cfs) requirements for the Cowell Agreement (does not include FERC and Davis-Grunsky flow requirements).	
October 1 – 15	50[1]
October 16 – 31	50[1]
November	50[1]
December	50[1]
January	50[1]
February	50[1]
March	100
April	175
May	225
June	250[2]
July	225[2]
August	175[2]
September	150[2]

[1] Requirement is equal to 50 cfs or the natural flow of the Merced River (inflow to Lake McClure), whichever is less.
[2] If the natural flow of the Merced River falls below 1,200 cfs in the month of June, the Cowell Agreement flows are reduced accordingly from that day: 225 cfs flow for next 31 days; 175 cfs flow for next 31 days; 150 cfs for next 30 days; 50 cfs for remainder of September.

Vernalis Adaptive Management Plan and San Joaquin River Agreement
Merced ID is a signatory to the San Joaquin River Agreement (SJRA) dated February 1998 which, among other things, implements the Vernalis Adaptive Management Plan (VAMP). The SJRA was developed as an alternative that provides a level of protection equivalent to the San Joaquin River flow objectives contained in the State Water Resources Control Board (SWRCB) 1995 Water Quality Control Plan for the Delta. Under the VAMP, effects of flow and export from the Sacramento/San Joaquin River Delta upon salmon will be investigated. The first year of full implementation of VAMP occurred in 2000. As part of that agreement, increased flows in the spring and fall are provided in the Merced, Tuolumne, and Stanislaus Rivers. Because of the effects of the Division Agreement discussed below, nearly 75 percent of the VAMP flows are supplied by Merced ID. Such flows are provided during an April/May pulse flow and during October. The SJRA specifies the quantity of water from the Merced River that will be dedicated to meet the flow needs for VAMP. The SJRA contains two flow components applicable to the Merced River: 1) It provides for Merced ID to release 12,500 acre-feet above existing flow releases for Chinook salmon during October of all years, and 2) It provides for Merced ID to meet a substantial portion of the April/May VAMP flow target under the Division Agreement among San Joaquin River Group Authority (SJRGA) members.

Division Agreement. Pursuant to the SJRA, the SJRGA members (with the exception of Friant Water Users Authority) have agreed to meet specified Vernalis flow requirements for Delta protection and to complete studies over a 12-year period, which requirements were adopted by the SWRCB in Water Right Decision 1641, revised March 15, 2000 (Order WR-2000-02). The SJRGA executed a Division Agreement dated June 12, 1998, which assigns to each SJRGA member some responsibility for specified target flows at Vernalis on the San Joaquin River (Table 3). Merced ID's responsibility ranges between 50% and 100% of such flows. These specified target flows are provided in the Merced River during the 31-day, April/May pulse flow period in a manner that: (a) facilitates the studies defined in a DFG/Merced ID MOU; and (b) are timed for arrival at Vernalis pursuant to the requirements of the SJRA.

Table 3. Water allocation (in acre-feet) specified in the Division Agreement among water district members within the San Joaquin River Group Authority for use in the Vernalis Adaptive Management Plan.

Priority in Descending Order	First 50,000	Next 23,000	Next 17,000	Next 20,000	Totals
Merced ID	25,000	11,500	8,500	10,000	55,000
Oakdale ID/ South San Joaquin ID	10,000	4,600	3,400	4,000	22,000
Exchange Contractors	5,000	2,300	1,700	2,000	11,000
Modesto ID/Turlock ID	10,000	4,600	3,400	4,000	22,000

Supplemental Water above the 110,000 Acre-Feet. In addition to the 110,000 acre-feet identified in the SJRA for the VAMP April/May pulse flow period, there is a potential need for up to an additional 47,000 acre-feet of water. The additional water may be needed to support flows identified for VAMP by providing flows at Vernalis and to assist the U.S. Bureau of Reclamation (USBR) in meeting the Anadromous Fish Restoration Program, Bay-Delta flow objectives as required by SWRCB Water Right Decision 1641. If achieving the double-step requires more than the 110,000 acre-feet of supplemental water, additional water from willing sellers on the San Joaquin, Stanislaus, Tuolumne, and Merced rivers may be acquired by USBR for the pulse flow period.

Merced River Adaptive Management Plan (MRAMP)
In the event that the SJRA is terminated before its expiration, Merced ID will continue to provide supplemental interim spring flows at such times and in such quantities as are set forth in the MRAMP agreement between Merced ID, DFG, CDWR and USBR. The MRAMP will have no effect unless the SJRA is terminated prior to the SWRCB-approved expiration date of the SJRA.

Additional 12,500 Acre-Feet October Flows
As part of the 2002 MOU between Merced ID and DFG (DFG/Merced ID MOU) and pursuant to the SJRA, Merced ID agreed to provide additional flows (12,500 acre-feet) above the existing instream flows described above during October every year. The increased October flow each year continues beyond the expiration of VAMP.

Each year DFG develops a flow schedule for the augmentation of Merced River flow in the month of October of not less than 12,500 acre-feet. That schedule is developed and delivered to Merced ID not later than August 15th each year. If DFG and Merced ID fail to agree on the flow schedule by September 15th of any year, the schedule for delivery of supplemental water is as follows:

October 1-15	2,500 acre-feet
October 16-31	5,000 acre-feet
October 7-31	5,000 acre-feet

In the event DFG and Merced ID fail to agree on a pulse flow schedule, the default is level flow of 2,500 acre feet between October 10 and 15 inclusive, and 2,500 acre feet between October 16 and 20, inclusive.

Flood Control Releases
The United States made a monetary contribution toward the construction of the Merced River Hydroelectric Project (Project) (FERC – 2179), consisting of New Exchequer Dam/Powerhouse/Lake McClure (1,024,600 AF) and McSwain Dam/Powerhouse/Lake McSwain (9,730 AF), in the amount of $9.5 million to provide for flood control features. Article 39 of MID's FERC License requires the Project be operated for flood control as directed by the Secretary of the Army (31 F.P.C. at 901). Spillway features at New Exchequer Dam include a gated ogee section and an ungated ogee section with a total capacity of 375,000 cfs. A flood control reserve of the upper 350,000 acre-feet is set aside as "Rain Flood Space" in Lake McClure. By November 1st of each year, Lake McClure must be drawn down to a storage of 674,500 acre-feet. This flood control reserve must be maintained until March 15th, at which time inflow to the reservoir may be stored for later use. A downstream flood control release limit from the Project has also been established at 6,000 cfs, except in emergency cases. The maximum annual release from the Project for flood control was in 1983, when 2,020,300 acre-feet were released to the Merced River. The maximum instantaneous flood control release from New Exchequer Dam occurred during the January 1997 flood event, in the amount of 8,000 cfs.

Should you have any questions or need additional information, please contact Mr. Ted Selb, Deputy General Manager, at (209) 722-5761.

Respectfully,

Dan W. Pope
General Manager

cc: Donald Koch, DFG Director
Ted Selb, Merced ID Deputy General Manager
Ken Robbins, Merced ID General Counsel