

STATE OF CALIFORNIA
STATE WATER RESOURCES CONTROL BOARD

IN THE MATTER OF)
)
Proposed Method of Calculating)
)
Supplemental Project Water)
)
Submitted by)
)
California Department of)
)
Water Resources, and)
)
United States Bureau of)
)
Reclamation (formerly)
)
United States Water and)
)
Power Resources Service))
In Accordance with Water Rights))
Standard Permit Term 91)
)

Order: WR 81-15

ORDER APPROVING METHOD OF CALCULATING WHEN
SUPPLEMENTAL PROJECT WATER EXISTS

BY THE BOARD:

The Board having adopted Water Rights Standard Permit Term 91 (Term 91); Term 91 having required that a reasonably accurate method of calculating supplemental Project water be developed by the Department of Water Resources and the United States Bureau of Reclamation (collectively referred to as Project operators), that the Board approve such method only after hearing, and that certain definitions be confirmed by the Board after hearing; a method of calculating when supplemental Project water exists having been jointly submitted by the Project operators; a public hearing having been held before the Board on March 30, 1981; interested parties having appeared and presented evidence; the evidence received into the record having been duly considered; the Board finds as follows;

Background

1. The Board, in adopting Decision 1485 on August 16, 1978, amended water right permits for the federal Central Valley Project (CVP) and the State Water Project (SWP). Reserved jurisdiction in the permits was exercised to establish or revise terms and conditions for salinity control in the Sacramento-San Joaquin Delta (Delta) and Suisun Marsh, for protection of fish and wildlife in the Delta and Marsh, and to coordinate terms of the various permits of the two projects.^{1/}

2. Subsequent to the adoption of Decision 1485, the United States Bureau of Reclamation (Bureau) protested most water right applications within the Delta watershed on the basis that all new appropriators should share in the responsibility of meeting Delta standards. The Bureau and the Department of Water Resources (Department) requested that permits issued on such applications contain terms prohibiting diversion whenever the CVP and SWP (Projects) are providing water to maintain required water quality in the Delta.

3. It has been many years since completion of previous studies on the availability of water in the Delta and its watershed. The Board has therefore begun a comprehensive analysis of the availability of unappropriated water in the Delta watershed. The results will address the concerns expressed by the Bureau in its protests. However, the water availability study will not be completed until January, 1984. In order to avoid withholding action

^{1/}Applicability of Decision 1485 to the United States Bureau of Reclamation is currently under litigation. However, the Secretary of Interior has stated that the Bureau will operate the Central Valley Project to meet Sacramento-San Joaquin Delta standards contained in Decision 1485, except possibly in years of extraordinary drought, until such time as the legal question of mandatory compliance is resolved by Congress or the courts.

on the protested applications until then, an interim solution was adopted by the Board on March 25, 1980 in the form of Term 91. By including Term 91 in the permits of new appropriators in the Delta watershed, the Bureau's (and Department's) protests were resolved.

4. Term 91 states:

"No diversion is authorized by this permit when satisfaction of inbasin entitlements requires release of supplemental Project water. The Board shall advise permittee of the probability of imminent curtailment of diversions as far in advance as practicable based on anticipated requirements for supplemental Project water provided by the Central Valley Project or the State Water Project operators. The Board shall notify the permittee of curtailment of diversions when it finds that no water is available for diversion under this permit.

For the purpose of initially determining supplemental Project water required for inbasin entitlements, the following definitions shall apply:

- a. Inbasin entitlements are defined as all rights to divert water from streams tributary to the Sacramento-San Joaquin Delta or Delta for use within the respective basins of origin or the Legal Delta, unavoidable natural requirements for riparian habitat and conveyance losses, and flows required by the Board for maintenance of water quality and fish and wildlife. Export diversions and Project carriage water are specifically excluded from the definition of inbasin entitlements.*

b. *Supplemental Project water is defined as water imported to the basin by the Projects, and water released from Project storage, which is in excess of water required for Project export and Project inbasin deliveries.*

Notice of curtailment of diversion under this term shall not be issued by the Board until:

1. *Project operators jointly develop and demonstrate to the Board a reasonably accurate method of calculating supplemental Project water.*
2. *The Board has approved the method of calculating supplemental Project water and has confirmed the definitions of inbasin entitlements and supplemental Project water after public hearing.*
3. *The Project operators have notified the Board that the release of supplemental Project water is imminent or has occurred. Such notice should include the times and amounts of releases or potential releases.*
4. *The Board finds that supplemental Project water has been released or will be released."*

5. *In accordance with subparagraph 1 of Term 91, the Project operators submitted a proposed method of calculating when supplemental Project water exists to the Board on October 3, 1980.*

6. *In accordance with subparagraph 2 of Term 91, a hearing was held on March 30, 1981.*

Definitions to be Confirmed

7. To make the wording compatible with that in the definition for "inbasin entitlements", the following definition for "supplemental Project water" will replace that contained in Term 91:

Supplemental Project water is defined as water imported to the basin by the Projects, and water released from Project storage, which is in excess of export diversions, Project carriage water, and Project inbasin deliveries.

The definition of inbasin entitlements contained in Term 91 is satisfactory.

Proposed Method

8. The method for calculating when supplemental Project water exists as submitted by the Project operators and modified at the hearing is:

SR, D + CW

Equation 1
(Units - cfs)

Where SR = Net storage releases from Shasta, Oroville, and Folsom Reservoirs plus imports to the Sacramento Valley from the Trinity River CVP complex.

D = SWP and CVP export diversions at Clifton Court Forebay, Tracy Pumping Plant, and Contra Costa Canal Intake.

CW = Project carriage water based upon the Delta Export Index (EI, as determined by Equation 2 below).
(Carriage water will not apply in Equation 1 when a flow objective controls the Delta).

The following factors are used to calculate CW:

<u>Critical year*</u>	<u>Other years</u>	<u>Carriage water - per 1,000 ft³/s of EI when EI > 4,000 ft³/s</u>
May thru Nov	Jun thru Sep	240
Dec thru Mar	Dec thru Mar	310
April	--	0
--	Apr, May, Oct, Nov	180

* As defined in Decision 1485.

$$EI = \text{Exports} - (\text{SJR} + \text{ES} + 2/3 \text{ DP} + 2/3 \text{ SA})$$

Equation 2
(Units - cfs)

Where EI = Delta Export Index

Exports = Project exports from the San Joaquin side of the Delta (same as D in Equation 1).

SJR = San Joaquin River flow at Vernalis

ES = East Side stream inflow to Delta

DP = Precipitation within the legal Delta

SA = Seasonal adjustment for consumptive use in the Delta.

The following values are used for SA:

Seasonal Adjustment - ft³/s

<u>Month</u>	<u>Critical year*</u>	<u>Other years</u>
Jan	2600	1700
Feb	2800	2700
Mar	2800	2400
Apr	2000	1600
May	1700	1500
Jun	400	400
Jul	-600	0
Aug	300	1100
Sep	1700	2000
Oct	2300	2300
Nov	1600	2200
Dec	800	1700

*As defined in Decision 1485.

9. Because facilities are not available to readily obtain daily information for East Side stream inflow to the Delta (ES) and precipitation within the legal Delta (DP) in Equation 2, the value of those terms will be zero. Any change in value from that, as well as any change to the carriage water factors (CW) used in Equation 1 and the seasonal adjustment values (SA) used in Equation 2 shall be submitted to the Board for approval.

Implementing Term 91

10. Term 91 indicates that the Board will give as much advance notice as possible to holders of permits containing the term when it is probable that curtailment of diversions under the term may be implemented. Therefore, it is necessary that the Project operators alert the Board in a timely manner when it is anticipated that diversion restrictions under Term 91 will be requested.

11. In order that the Board may verify the existence of supplemental Project water as soon as possible, the Project operators shall submit sufficient information and back up data to the Board to facilitate a comprehensive review of the calculations, including the trend of the results.

12. Since Term 91 and the proposed method of calculating when supplemental Project water exists were developed to address a limited situation, the Board will approve implementation of diversion restrictions only if the following conditions are met:

a. Supplemental Project water exists.

b. Hydraulic continuity (a continuous visible thread of water) exists between the Project reservoirs, involved in Equation 1, and the Delta.

c. Delta outflow is no more than reasonably necessary to comply with Decision 1485 standards.

d. Project stored water is flowing out of the Delta.

13. After implementation of diversion restrictions under Term 91, the Project operators shall submit daily calculations for the existence of supplemental Project water to the Board on a weekly basis to verify continued need for the restrictions. The Board shall be notified immediately when supplemental Project water no longer exists.

Revised Term 91

14. Adoption of this order approving a method of calculating when supplemental Project water exists makes several conditions in existing Term 91 unnecessary. In order to avoid confusion, Term 91 shall be revised to the following:

No diversion is authorized by this permit when satisfaction of inbasin entitlements requires release of supplemental Project water by the Central Valley Project or the State Water Project.

- a. Inbasin entitlements are defined as all rights to divert water from streams tributary to the Sacramento-San Joaquin Delta or the Delta for use within the respective basins of origin or the Legal Delta, unavoidable natural requirements for riparian habitat and conveyance losses, and flows required by the Board for maintenance of water quality and fish and wildlife. Export diversions and Project carriage water are specifically excluded from the definition of inbasin entitlements.
- b. Supplemental Project water is defined as water imported to the basin by the projects, and water released from Project storage, which is in excess of export diversions, Project carriage water, and Project inbasin deliveries.

The Board shall notify the permittee of curtailment of diversion under this term after it finds that supplemental Project water has been released or will be released. The Board will advise the permittee of the probability of imminent curtailment of diversion as far in advance as practicable based on anticipated requirements for supplemental Project water provided by the Project operators.

Filings to Include Term 91

15. Since Term 91 is an interim measure, and was developed as a result of Project operator protests precipitated by the adoption of Board Decision 1485 on August 16, 1978, Term 91 shall apply only to permits and licenses having a priority date after August 16, 1978. It shall apply to appropriations that are within the Sacramento, Consumnes, Mokelumne, Calaveras, or San

Joaquin River Basins or the Sacramento-San Joaquin Delta, when hydraulic continuity with the Delta exists, or is likely to exist, during the authorized diversion season. Exceptions are the Putah Creek, Stony Creek, and Cache Creek watersheds. Other exceptions will be at the discretion of the Board.

16. Term 91 has been included in some permits having a priority date before August 16, 1978. This order will delete the term from such appropriations.

Delegation of Authority

17. In order to allow for timely implementation under Term 91, authority to review technical data, determine compliance with the conditions in Finding 12 herein, decide whether to implement Term 91, and notify appropriators of the beginning and ending of diversion restrictions will be delegated to the Chief, Division of Water Rights.

18. As experience with the operation of Term 91 is gained, additional exceptions to the use of the term in permits and licenses may be indicated. The Chief, Division of Water Rights will be granted authority to institute such exceptions after providing opportunity for Board comment.

19. Experience may also indicate that there are short periods of time when it would be impractical to implement the diversion restrictions in Term 91 in spite of compliance with the conditions set forth in Finding 12 herein. The delegation of authority to the Chief, Division of Water Rights will include authority to determine such situations.

Interim Nature

20. The provisions of Term 91 are interim in nature until replaced by the results of the Board's Water Availability Study for the Sacramento-San Joaquin Delta Watershed or other Board action. The Board's adoption of this order is not intended to be a final determination of any issues that may be addressed in the Water Availability Study or other Board actions.

ORDER

THEREFORE IT IS ORDERED:

1. The definition of inbasin entitlements contained in Term 91 and the definition of supplemental Project water contained in Finding 7 herein are confirmed.

2. The proposed method of determining when supplemental Project water exists as contained and conditioned in Findings 8 through 13 herein is approved on an interim basis until modified, replaced, or rescinded by further Board order.

3. The revised text and instructions for Term 91 as contained in Findings 14 and 15 herein shall hereafter be used when including the term in permits and licenses.

4. Term 91 shall be deleted from permits and licenses having a priority date before August 16, 1978.

5. The Chief, Division of Water Rights, is delegated the following authority with respect to Term 91:

a. To make findings concerning the existence of supplemental Project water and the satisfaction of conditions required for the implementation of diversion restrictions under Term 91.

b. To decide whether to implement Term 91.

c. To notify appropriators of the beginning and ending of diversion curtailments.

d. To institute additional exceptions to the use of Term 91
in appropriations, after opportunity for Board comment.

Dated: November 19, 1981

ABSENT

Carla M. Bard, Chairwoman

L. L. Mitchell
L. L. Mitchell, Vice-Chairman

Jill B. Dunlap
Jill B. Dunlap, Member

F. K. Aljibury
F. K. Aljibury, Member