

CDWA and SDWA Delta Alternative Compliance Plan (Delta ACP)

Note: The Delta Measurement Experimentation Consortium (Consortium) has requested and been granted leave from the Office of the Delta Watermaster (ODWM) to submit the Delta ACP in this customized format in lieu of using the Division of Water Rights' online form [see 23 CCR §935 (c)(2)]. This submission is filed under penalty of perjury. The ODWM will post the Delta ACP on its website and invite comment by any interested party.

I. Background

The diversion measurement statute was passed as a 2015 budget trailer bill (SB 88) and is now codified in Water Code §1840. Regulations implementing the diversion measurement requirement were adopted by the State Water Board in March of 2016. Early attempts at compliance with the new regulations within the Legal Delta revealed a series of unexpected challenges. In order to address these challenges, the ODWM convened a voluntary, *ad hoc* group of diverters, engineers, lawyers, equipment vendors, and farmers to share research and experience with the objective of identifying best practices, workable equipment, and practical approaches to compliance. This group, dubbed the Delta Measurement Experimentation Consortium (Consortium), has met roughly each quarter over the ensuing five years to work collaboratively on in-Delta compliance challenges. Notwithstanding the concerted efforts of its members, the Consortium failed to identify a feasible strategy for strict compliance with the requirements of §933 (measuring devices), because none of the tested equipment could consistently meet the specified accuracy in Delta conditions, or §934 (measurement method), because no method developed and tested could reliably measure a variety of diversion designs/operating conditions.

At its meeting July 15, 2020, the Consortium arrived at a consensus that strict compliance with the regulations was currently beyond practical reach for many points of diversion (PODs) within the Legal Delta. Therefore, the Consortium—with concurrence of the ODWM—began the process of developing this Delta ACP.

The Consortium appointed an oversight committee¹ to lead the development effort. The Central and South Delta Water Agencies agreed to fund the necessary software development and digitization of places of use (POUs) at the heart of the Delta ACP on behalf of all diverters within their boundaries. Notwithstanding, the leadership by the two Water Agencies, the Delta ACP Template is available as an alternative means of regulatory compliance for any POD within the Legal Delta on a non-discriminatory basis. Changes as required by the ODWM will be necessary.

II. Diverters Covered by the Central Delta Water Agency (CDWA) and South Delta Water Agency (SDWA) Delta ACP (Participants)

Attachment A is an Excel spreadsheet which lists current Participants in the CDWA and SDWA Delta ACP, along with pertinent information related to their respective water rights/claims. The CDWA and SDWA Delta ACP remains open to application from any diverter within the Legal Delta.

¹ The Oversight Committee consists of Dante Nomellini, Russ Ryan, and Michael George with primary support from Brett Baker, Lindsay Kammeier, Dante Nomellini Jr., and John Herrick.

Participants will be added as applications are received, reviewed, and approved. Therefore, Attachment A is subject to revision; the current version of Attachment A will be kept on file and available for review by any interested party on the website of the ODWM and at the office of the Designated Representative (see below).

III. Designated Representative of Plan Participants

Participants will certify, either directly or through their designated agents, to the accuracy of information reported through the CDWA and SDWA Delta ACP to the State Water Board's Report Management System (RMS). The CDWA and SDWA Delta ACP will be administered in two parts. The CDWA will be the coordinator for the lands within its boundaries and for those Participants from outside the boundaries of CDWA and SDWA who choose to work through its office. The CDWA office is located at 235 East Weber Avenue, Stockton, CA 95202. Mailing address P.O. Box 1461, Stockton, CA 95201-1461. Email is ngmplcs@pacbell.net and telephone number is (209) 465-5883. Principal Contacts are Brett Baker and Dante John Nomellini, Jr. The SDWA will be the coordinator for the lands within its boundaries and for those Participants from outside the boundaries of the CDWA and SDWA who choose to work through its office. The SDWA office is located at 1806 W. Kettleman Lane, Suite L, Lodi, CA 95242. Email is Jherrlaw@aol.com and telephone number is (209) 663-9148. Principal contacts are John Herrick and Dean Ruiz.

IV. Types of Water Right Claims, by Participants

The Delta ACP is intended to streamline reporting and provide more real-time and more relevant consumptive use data for planning and operational purposes. The reported data are not intended to and do not constitute a determination as to the extent or nature of any water right or claim. A listing of water rights claimed will be included in the annual reports filed with the SWRCB through the Delta ACP.

V. Digitized Place of Use (POU) for Each Water Right/Claim with Associated Point(s) of Diversion (PODs)

Participation in the ACP will require a geospatially referenced polygon signifying a digitized POU. For uniformity, each POU will be digitally mapped in Esri's most recent version of ArcGIS. Submittal of the annual water diversion and use report requires landowners or their agents to certify the accuracy of the report, including the digitized POU, acreage of POU and monthly ET amounts in acre-feet. The ArcGIS shapefile(s) of POU(s) for each Participant will be provided to the SWRCB. Access to the digitized POU(s) may be incorporated into or linked into OpenET. Password protection for changes will be required.

The ArcGIS shapefile (digitized map) for each participating POU will connect to OpenET, via the Delta ACP, to correlate acreage and monthly ET in acre-feet. (See Attachment B.) Each POU designation will include the associated POD; water use will be allocated among the PODs serving the POU on an equal basis. The OpenET determination of consumptive use within the POU will be reported in the

Participant’s supplemental statement of diversion and use, via the CDWA and SDWA Delta ACP, to the State Water Board’s Report Management System (RMS).

VI. Assessor’s Parcel Numbers (APNs) Partially or Wholly within each POU, and Parcel Owner(s) Name(s) will be included in the annual water use reports filed with the SWRCB.

VII. Measurement of evapotranspiration (ET) within each POU will be compiled from OpenET not less often than monthly.

VIII. Description of Methodology for Measuring ET under the Delta ACP

The CDWA and SDWA Delta ACP determines the consumptive use of water within each digitized POU using its licensed Application Programming Interface (API) to access OpenET. The ODWM has determined that OpenET is a scientifically-sound basis for accurately measuring ET and is, therefore, an acceptable method for determining ET within the Legal Delta. OpenET’s Model Intercomparison and Accuracy Assessment can be found at <https://openetdata.org/accuracy/>. Furthermore, OpenET, as an open source application, continues to be refined and improved as to its methodology, indicates methods included in the ensemble values, and provides a public user interface.

IX. Implementation Schedule with Milestones

The software development contract in the amount of \$242,060 with HabitatSeven Inc. was executed on June 29, 2021. Progress to date is reflected in current invoices totaling \$127,400. CDWA and SDWA are splitting the cost. Public access to Open ET’s website (OpenETdata.org) was provided, beginning October 21, 2021. The CDWA and SDWA Delta ACP and Template (applicable to the water year commencing October 1, 2021) will provide the first annual water use reports under the CDWA and SDWA Delta ACP by February 1, 2023.

X. Budget and Participant Cost Allocation

Draft Cost Estimates for Participating in the CDWA and SDWA Delta ACP

Initial Year Cost

CDWA and SDWA Delta ACP Software Development Cost + OpenET Cost + Contingency

Acres Participating in the CDWA and SDWA Delta ACP

$$\frac{\$242,060.00 + (\$0.20 \times 204,000 \text{ ac}) + \$50,000}{204,000 \text{ ac}}$$

$$\frac{\$242,060.00 + \$40,800 + \$50,000}{204,000 \text{ ac}}$$

$$\frac{\$332,860}{204,000 \text{ ac}} = \$1.63/\text{ac}$$

Potential Contingency costs will be limited to outside costs such as additional Delta ACP software development costs for interface with RMS.

Annual cost after initial year

$$\frac{\text{CDWA and SDWA Delta ACP Software Maintenance Cost + OpenET Cost}}{\text{Acres Participating in the CDWA and SDWA Delta ACP}}$$

$$\frac{\$50,000.00 + \$50,000.00(\$0.20 \times 250,000 \text{ ac})}{250,000 \text{ ac}}$$

$$\frac{\$100,000}{250,000 \text{ ac}} = \$0.40/\text{ac}$$

Participating acreage will be the POU acreage within the CDWA and SDWA plus the POU acreage of the outside Participants. Changes in reporting requirements that necessitate changes to the CDWA and SDWA Delta ACP may incur costs for programming and CDWA or SDWA staff time. Participants outside the CDWA and SDWA boundaries will proportionally share these costs.

The foregoing estimate of Participant costs for coverage under the Template Delta ACP does not include (1) OpenET development (roughly \$9 million paid primarily from philanthropy with \$150,000 contribution by the three Delta Water Agencies); (2) CDWA/SDWA staff time (not only ACP development direction, but also help in drawing the POU's and teaching others to do so); (3) Water Board staff time (primarily to create the API that will link the Delta ACP software to RMS so as to accommodate delivery and verification of Participants' reports).

XI. There are no permits required for implementation of the Delta ACP.

XII. Agreement for outside party to participate in the CDWA and SDWA Delta ACP

The form of agreement for parties outside the CDWA and SDWA to participate in the CDWA and SDWA Delta ACP is attached hereto as Attachment D.

XIII. Bases for Substituting Measurement of ET for Measurement of Diversion

The CDWA and SDWA Delta ACP will estimate beneficial use of water based upon the OpenET's report of evapotranspiration within the georeferenced POU for the applicable water right claim. Data captured by satellites are analyzed and evapotranspiration data are extracted and posted to

OpenETdata.org where these data can be downloaded and further processed to allow for consistent reporting of ET. The CDWA and SDWA Delta ACP will upload Participants' georeferenced POUs to OpenET using a licensed API. Through a parallel API, OpenET will report the monthly evapotranspiration and the acreage in each Participant's annual Supplemental Statements of Water Diversion and Use and/or Report of Licensee. Participants will execute the SWRCB report certification for each report supported by the Delta ACP to the RMS. The report will include the actual monthly evapotranspiration within the POU and POU acreage under the Participant's water right claim as measured by OpenET without correction for known irrigation timing, practices, etc. This methodology has been approved by the ODWM.

XIV. Substantiation that Strict Compliance with §933 or 934 is Not Feasible

Over the course of five years, the Consortium tested numerous types of measurement equipment and methods to determine if there was a widely applicable option for measuring diversions in the complex, tidally-influenced Legal Delta. At the end of the equipment testing period, the Consortium concluded that strict compliance with sections 933 or 934 is not currently feasible for most diversion facilities within the Legal Delta. Using ET as a measure of actual water withdrawals from the Delta is the most appropriate, currently available alternative for consistently meeting the objectives of Water Code section 1840.

XV. Certification of Compliance

I, Dante John Nomellini, Sr. hereby certify that the CDWA and SDWA Delta ACP is in compliance with 23 California Code of Regulations §935. Compliance is based on the use of evapotranspiration data remotely sensed and compiled by OpenET which is being widely implemented across the Sacramento-San Joaquin Delta as the most feasible approach to comply with the State Water Board's diversion measurement regulations. OpenET substitutes closer-to-real-time measurement of actual water use within the POUs rather than the inconsistent and unreliable measurement of diversions, which do not reflect water consumption or water loss in the Delta. Such is reasonable and practical based on my knowledge of the geology of the Delta, the tidal connectivity to the waters from the west including the bays and ocean, the recirculation of water through drainage pumping, the high-water table, the supply of water through seepage, groundwater and artesian flow, and the PODs and POUs associated the respective water rights and claims.

XVI. Annual Reports by Participants

The CDWA and SDWA Delta ACPs will generate a draft annual water use report for each Participant. Upon review, correction (if necessary), and approval, each Participant will execute the report certification and authorize the CDWA and SDWA Delta ACP to file an annual water use report on behalf of the Participant. In filing the annual water use report, the CDWA and SDWA Delta ACP will act solely as the Participant's authorized agent. The Participant will be solely responsible for the accuracy of the annual water use report on penalty of perjury as though the Participant filed directly rather than through the CDWA and SDWA Delta ACP, *provided, however*, that the Participant is not responsible for software glitches or other clerical or process errors within the CDWA and SDWA Delta ACP associated with APIs linking either to OpenET or to the RMS. Errors in annual reports will

be promptly corrected as and when discovered or brought to the attention of the Participant and the Delta ACP, as appropriate.

XVII. Duration of the Delta ACP

The Delta ACP will be in effect until the earlier of its amendment or January 1, 2027. Participants may withdraw at any time and file their respective reports in any manner allowed by the SWRCB.

Attachments:

- A. Excel spreadsheet listing pertinent information for Participants in the Delta ACPs
- B. Georeferenced polygons representing the POU associated with each water right/claim's POD.
- C. Template of Application Form for Participants within CDWA or SDWA
- D. Form of Agreement for Participants outside CDWA and SDWA but within the Legal Delta