TITLE 23. WATERS

DIVISION 2. DEPARTMENT OF WATER RESOURCES

CHAPTER 5.1 WATER CONSERVATION ACT OF 2009

ARTICLE 2. Agricultural Water Measurement

INITIAL STATEMENT OF REASONS

Certificate of Compliance Rulemaking
Related to Emergency Rulemaking File #2011-0624-01E

SPECIFIC PURPOSE OF REGULATION CHANGE AND DETERMINATION OF REASONABLE NECESSITY

The purpose of the regulation is to provide a range of water measurement options that agricultural water suppliers may use or implement to comply with the measurement requirement in paragraph (1) of subdivision (b) of Water Code Section 10608.48.

Section 10608 (e) of the Water Code declares that "the success of state and local water conservation programs to increase efficiency of water use is best determined on the basis of measureable outcomes related to water use or efficiency". Section 10608.4 requires implementation of specific efficient water management practices (EWMP) for agricultural water use. Section 10608.48 (b) specifically deems two of the EWMPs as critical and that agricultural water suppliers shall implement them: (1) measuring the volume of water delivered to customers with sufficient accuracy (the subject of this regulation), and (2) adopting a pricing structure for water customers based at least in part on quantity delivered. This regulation provides a range of water measurement options that allow agricultural water suppliers to implement the aforementioned critical EWMPs to comply with the requirements of Section 10608.48 (b). The initial adoption of the regulation was deemed an emergency by the Legislature pursuant to subdivision 10608.48(i)(2) of the California Water Code.

The text of the proposed regulation provides agricultural water suppliers with:

- The criteria needed to determine applicability of the water measurement requirement
- Definitions needed to clarify terms used in the regulation and specify the meanings for the purposes of applicability of the regulation
- A range of water measurement options for various conditions
- Accuracy standards for water measurement devices and provisions for certification and performance requirements.

Adoption of the proposed regulation is necessary for providing agricultural water suppliers with measurement options needed to comply with the measurement requirement in paragraph (1) of subdivision (b) of Water Code Section 10608.48.

Section 597. Agricultural Water Measurement

This subsection is a restatement of the statute and sets forth the purpose of the proposed regulation, namely the mandate for the Department of Water Resources to adopt regulation for agricultural water measurement.

Reference is made to other sections of the Water Code related to the agricultural water measurement provision, namely the requirement for the agricultural water suppliers to measure water deliveries to their customers, report aggregate farm-gate deliveries, and adopt a pricing structure for water customers based at least in part on quantity delivered. Also, included is a provision requiring the Department to report on future availability of new water measurement technologies and an assessment of impediments to the implementation of the regulation.

This restatement is necessary as it provides the broad context of and the need to provide measurement options for the purpose of enabling agricultural water suppliers to report their water deliveries and adopt a volumetric water pricing structure to comply with the measurement requirement in paragraph (1) of subdivision (b) of Water Code Section 10608.48.

Section 597.1 Applicability

This section provides the broad criteria for applicability of the proposed water measurement regulation. The section is necessary because it defines the broad criteria for applicability of this regulation and identifies those entities that are required to comply and those that are excluded. Based on criteria mentioned in the SB X7-7 legislation, specific entities and categories of suppliers are enumerated with the respective applicability conditions.

a) Identifies the acreage threshold for applicability of the proposed regulation.
b) Clarifies applicability to wholesale agricultural water suppliers, canal authorities, and entities delivering water through federal facilities.
c) Clarifies applicability to suppliers providing water to wildlife refuges.
d) Excludes agricultural water suppliers providing water to less than 10,000 irrigated acres.
e) Excludes agricultural water suppliers providing water to 10,000 or more irrigated acres but less than 25,000 irrigated acres, unless funding is provided.
f) Clarifies applicability to canal authorities and entities delivering water through federal facilities
g) Excludes suppliers that are part of the Quantification Settlement Agreement.
h) Excludes the Department of Water Resources.
i) Gives an alternate compliance option for agricultural water suppliers subject to CVPIA and RRA if all their water deliveries are measured in accordance to the US Bureau of Reclamation Conservation and Efficiency Criteria Standards.

Section 597.2 Definitions

This section is necessary because it clarifies the terms used in the regulation. The justification for including the particular terms is listed below.

1) Accuracy – it is used throughout the regulation.

2) Agricultural water supplier – used in the statute and throughout the regulation.
3) Approved by an engineer - used in sections 597.3 and 597.4.
4) Best professional practices – it is used in section 597.4.
5) Customer – it is used throughout the regulation.
6) Delivery point – used in other definitions and in sections 597.3 and 597.4.
7) Existing measurement device – used in sections 597.3 and 597.4.
8) Farm-gate – used in sections 597, 597.3 and 597.4.
9) Irrigated acres – used in section 597.1.
10) Manufactured device – used in the definitions of 'measurement devices' and 'on-site built devices'.
11) Measurement device – used in throughout the regulation.
12) New or replacement measurement device – used in sections 597.3 and 597.4.
13) Recycled water – used in the Statute and sections 597.1 and 597.2.
14) Type of device – used in sections 597.4.

Section 597.3 Range of Options for Agricultural Water Measurement

This section is necessary because it provides a range of options for agricultural water measurement as required by Water Code §10608.48(i)(1); description of these measurement options is needed for the purpose of enabling agricultural water suppliers to comply with the measurement requirement in order to report their water deliveries and adopt a volumetric water pricing structure. Options take into account various field and water flow conditions and existing infrastructure. Water measurement device accuracy standards are set for the identified range of options.

The section also includes conditions under which certain options can be used and the associated type of documentation required from the agricultural water suppliers should they choose to use those options.

Section 597.4 Accuracy Certification, Records Retention, Device Performance, and Reporting

This section is necessary because it establishes the procedures that agricultural water suppliers shall use to certify the accuracy standards of the water measurement devices they use to measure deliveries to their customers as required by paragraph (1) of subdivision (b) of Water Code Section 10608.48. Certification methods include laboratory based as well as field based methods to cover the various types of devices used including new and existing devices. The section also provides sampling protocols for field testing of devices to document compliance with measurement accuracy standards required by the regulation.

This section also provides a list of documentation required from the agricultural water suppliers to demonstrate / show:

a) Certification of device accuracy
b) Methodology used for sampling and testing of devices in the field and protocols to fix non-compliant devices.

c) Description of best professional practices used for collecting measurement data and methods used to calculate the volumes of water delivered to customers based on data collected.

BACKGROUND

In November 2009, the Legislature enacted SB X7-7 (Steinberg) and placed into the California Water Code a requirement that the Department of Water Resources adopt regulations that provide for a range of options that agricultural water suppliers may use or implement to comply with the measurement requirement in paragraph (1) of subdivision (b) of Section 10608.48

The regulation would apply to agricultural water suppliers providing water to 25,000 irrigated acres or more. Suppliers providing water to 10,000 or more irrigated acres but less than 25,000 irrigated acres are also subject to this regulation if sufficient funding is provided to them specifically for that purpose, as stated under Water Code Section 10853.

Agricultural water suppliers that are subject to the requirements must measure the volume of water delivered to customers with sufficient accuracy to (1) submit an annual report that summarizes aggregated farm-gate delivery data using best professional practices, and (2) adopt a pricing structure for water customers based at least in part on quantity delivered.

AUTHORITY

Under the authority included under California Water Code Section 10608.48(i)(1), the Department of Water Resources is required to adopt regulations that provide for a range of options that agricultural water suppliers may use or implement to comply with the measurement requirements in paragraph (1) of subdivision (b) of Section 10608.48.

Water Code Section 10608.48(i)(1) states:

> *The department shall adopt regulations that provide for a range of options that agricultural water suppliers may use or implement to comply with the measurement requirement in paragraph (1) of subdivision (b).*

The section above refers to Section 10608.48(b), which states:

> *Agricultural water suppliers shall implement all of the following critical efficient management practices:*
>
> *(1) Measure the volume of water delivered to customers with sufficient accuracy to comply with subdivision (a) of Section 531.10 and to implement paragraph (2).*
>
> *(2) Adopt a pricing structure for water customers based at least in part on quantity delivered.*

MATERIAL RELIED UPON

a) Independent Panel on Appropriate Measurement of Agricultural Water Use - Convened by the California Bay-Delta Authority, Final Report (September 2003). http://calwater.ca.gov/content/Documents/library/WUE/FinalReport_Sept03.pdf

b) 2008 Conservation and Efficiency Criteria. The United States Department of the Interior, Bureau of Reclamation. http://www.usbr.gov/mp/watershare/documents/Water_mgmt/Planner/2008%20(7)%20Standard%20Criteria.pdf

c) Cooperative Measurement Study Report. Sacramento River Settlement Contractors in Cooperation with the Bureau of Reclamation. August 2010. http://rd108.org/component/content/article/1-latest-news/82-cooperative-measurement-study-report

d) Discussion Paper: Range of Options for Agricultural Water Measurement. Department of Water Resources. June 2011. http://www.water.ca.gov/wateruseefficiency/sb7/committees/ag/a2/

e) Cost Analysis for Proposed Agricultural Water Measurement Regulation in Support of Economic and Fiscal Impact Statement. March 2011. http://www.water.ca.gov/wateruseefficiency/sb7/committees/ag/a2/

f) Discharge measurement structures. Third revised edition 1989. Edited by M.G. Bos. International Institute for Land Reclamation and Improvement. Wageningen, The Netherlands 1989.

g) Water Measurement Manual - A guide to effective water measurement practices for better water management. The United States Department of the Interior, Bureau of Reclamation. Third Edition, Revised Reprint 2001. http://www.usbr.gov/pmts/hydraulics_lab/pubs/wmm/

h) Arizona Administrative Code, Title 12, Chapter 15, Article 9 - Water Measurement. Sections R12-15-901 through R12-15-909.

i) 2007 Census of Agriculture. US Department of Agriculture, Washington D.C. December 2009. http://www.agcensus.usda.gov/Publications/2007/Full_Report/index.asp

j) More with Less: Agricultural Water Conservation and Efficiency in California, Special Focus on the Delta. Pacific Institute, September 2008. http://www.pacinst.org/reports/more_with_less_delta/more_with_less.pdf

DESCRIPTION OF REASONABLE ALTERNATIVES

The Department convened an agricultural stakeholders committee and a stakeholders water measurement sub-committee prior to the submittal of the Proposed Emergency Regulation File # 2011-0624-01 E. The stakeholders' committees provided input, discussed alternatives and advised the Department's decision making. Agricultural Stakeholders Committee and the Measurement Subcommittee, considered three alternative frameworks for developing a range of options for measuring agricultural water deliveries:

(1) **DWR list of acceptable devices:** Develop a regulation that includes a list of acceptable measurement devices maintained in defined manners to achieve desired accuracy. Suppliers could choose among those devices based on their local conditions.
(2) **DWR performance standards for device accuracy:** Develop a regulation setting a performance standard that defines minimum benchmarks for device accuracy that could be met or bettered by a range of devices. Suppliers could measure delivery using greater accuracy than the standard, based on their and their customers' demands. Included under this option would be requirements defining standards for device rating or calibration but could also set minimum standards for administration, monitoring and maintenance protocols for devices.
(3) **Locally-determined standards for device accuracy:** Develop a regulation that provides a process for suppliers to assess and report their measurement accuracy. For example, the regulation could specify a set of information that a supplier would report to DWR documenting 1) the procedures by which it determined sufficient accuracy, and 2) information documenting its measurement devices and accuracies. The information must demonstrate that the supplier's measurement accuracy is sufficient to meet the two purposes stated in SB X7-7: submit an annual report to the department that summarizes aggregated farm-gate delivery data, and adopt a pricing structure based in part on the volume delivered.

Based on discussions and input from the stakeholders' committees, DWR considered that the second framework – specifying a performance standard that defines minimum device accuracy benchmarks – provides the most appropriate framework to establish a range of measurement options. A performance standard meets the intent of the legislation in the most flexible and cost-effective manner.

The Department presented a series of draft proposals for this regulation to the stakeholders' committees. The draft proposals were based on data analysis and input from the stakeholders and the public. This draft proposal is the result of that process and is presented by the Department as the text of the proposed regulation.

A detailed analysis of the consideration of alternatives is found in the document from Materials Relied Upon, "d) Discussion Paper: Range of Options for Agricultural Water Measurement. Department of Water Resources. June 2011."

IMPACT ON BUSINESS

Fiscal impacts and costs to water suppliers are indirectly dealt with in this section, as costs to the agricultural water suppliers associated with complying with the regulation will be passed on

to their customers (i.e., farmers) through higher water rates and assessments. Though agricultural water suppliers might need voter approval to increase rates since they are subject to Proposition 218, which divests local public agencies of authority to impose or increase general taxes assessments and fees without voter approval. Nevertheless, the legislation has clearly singled out two efficient water management practices and considered them as 'critical' including the water measurement requirement. Unlike other efficient water management practices that are required only when locally cost effective under section 10608.48(c), SB X7-7 legislation does not provide any exemptions from the water measurement requirement of 10608.48(b)(1).

Only Agricultural water suppliers that provide water to more than 25,000 acres of irrigated land are subject to this regulation. As mentioned, costs to those agricultural water suppliers will be passed on to their customers. However, as required by legislation, agricultural water suppliers have to measure water deliveries to their customers in order to adopt a billing structure that is based at least partially on volume of water delivered. The volumetric pricing of water deliveries is expected to achieve an equitable billing for the agricultural water users, as well as encourage water use efficiency and conservation.

Significant uncertainty associated with data and assumptions suggest that the range of potential cost is large. The mid-range estimates of total present value of costs are $333 million over 20 years. About $70 million of that would be initial assessments and capital improvements, and the remainder is the present value of annual O&M, administration, and capital replacement. Costs could be as little as half that amount or as much as twice that amount. Average costs per acre potentially affected were estimated to be $24 in initial costs and $6.5 in annual ongoing O&M costs. Costs to individual farms are likely to vary significantly.

AVOIDANCE OF CONFLICT WITH FEDERAL REGULATIONS

The Department conducted a review of the Code of Federal Regulations and found no regulation that duplicated or conflicted with this proposed regulation. A comparable federal law does exist, and consists of the United States Bureau of Reclamation Conservation and Efficiency Criteria - Public Law 102-575, §3405 (e). However, this law applies only to federal water contractors.