From: Brostrom, Peter N.
Sent: Monday, August 23, 2010 10:59 AM
To: Huff, Gwen
Subject: FW: July 12 Urban Water Use Tech. comments
Attachments: Mills Target Tech Methodolgy cmts 7 26.doc; ATT00001..txt

-----Original Message-----
From: John Mills [mailto:sixbit@sonnet.com]
Sent: Monday, July 26, 2010 4:04 PM
To: Alemi, Manucher
Cc: Brostrom, Peter N.; Dave Bolland; John Woodling; David Eggerton; Sharon Fraser; Goldsmith Janet; John Kingsbury
Subject: July 12 Urban Water Use Tech. comments

Dear Manucher:

Please find my attached comments relative to the above referenced document.

Best,

John S. Mills

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Manucher Alemi, Chief DWR Water Use & Efficiency Branch; USC Co-lead
California Dept. of Water Resources
Sacramento, California

July 26, 2010

Subject: Comments on Urban Stakeholder Committee Released Draft Urban Water Use Target Technical Methodologies, July 12, 2010

Dear Mr. Alemi:

Thank you for the opportunity to review and provide comment early comments on the above referenced document. Please note that comments will reference specific Methodology unless otherwise noted.

Methodology 1: Gross Water Use

Measurement criteria (page 7):

There must be flexibility built into applied standards that recognize the diversity of California's man-made water system. These systems were not all constructed in the last 20 to 50 years on flat, urban, landscapes laid out in city blocks. Some of these systems were built when Lincoln was the President of a nation divided by the Civil War, and the transcontinental railroad was just another incomplete project.

There is a history of water systems in this state that should be incorporated and accommodated in this process. There are water systems in this state that are on the National Register of Historic Places and some under Federal Power Act restrictions on how the water system may be modified and operated so as to protect historic values. These systems meet the current definition of being an urban water supply system and due to numerous factors are

reasonably part of that particular system's distribution system. The managers of those systems must simultaneously comply with protections for historic values as well as 21st century mandates for water conservation.

Some of these systems, especially on the west slope of the Sierra Nevada Mountain range, are now and have been providing water for approximately 150 years. It is reasonable to assume that the DWR and the State should recognize their unmatched long-term reliability to the communities they serve.

A century and a half has occurred since these raw water ditch visionaries laid down flume and pipe systems and yet today the same systems continue to serve their intended purpose. Some of these systems continue to use diversion structures for municipal and industrial customers, (accurate to a reasonable degree) and sell water by the miner's inch (see California Water Code Section 24). Some of the devices used to divert the supplies include (but are not limited to); Orifice-type flow meters, Water meters, V-Notch Weir Boxes and Rectangular Weirs.

The accuracy of these deliveries are dependent upon a number of factors not all under the control of the operator. For example, open channel deliveries to M&I customers, unlike irrigation customers, must take place throughout all four seasons. Some of these systems are located at elevations where snowfall is heavy, and at times the distribution systems must maintain adequate flows to keep the open ditches and flumes from freezing and cutting off all water supplies downstream in the system. Additionally, these systems are subject to tree fall debris, landslides, snow-slides and the addition of sheet runoff (the canals do act as sheet runoff collection structures due to their design and integration into the topography). It must also be recognized that these systems are subject to the addition of flows from "uphill" storm water collection and discharge systems.

All of these factors and more make the operation of a water delivery system that can be dozens of miles in length (from the initial diversion point) a difficult system to operate to a high degree of efficiency. Thus, flows may vary substantially within the system, water depths will vary from anticipated levels and debris loads may make further demands on measuring flows.

These systems utilize many types of diversion structures to deliver M&I water according to existing, and in some cases, historic contracts and service agreements. These diversion devices include, but are not limited to; Orifice-type flow meters, V-Notch Weir Boxes, Rectangular Weirs and Water Meters. All of these devices are subject to errors in measurement of water due to the factors mentioned above as well as age, maintenance schedules, tampering, and so on. For more information regarding diversion structure design and accuracy I recommend the DWR refer to:

http://www.usbr.gov/pmts/hydraulics_lab/pubs/wmm/.

A more reasonable standard for accuracy of diversions would be a range, based on design and operational characteristics of the system that would be developed by the managing agency and submitted to DWR as part of its baseline and compliance data.

The general standard of +/- 6% (U.S. BOR Mid-Pacific Region, *Conservation and Efficiency Criteria,* 2008) is not appropriately applicable to the sort of systems I have referenced above. The BOR standard does not capture the variances resulting from the challenges and conditions that present themselves to the managing agency. Please remove and include language-incorporating information as provided above that provides for a more flexible and realistic range of measurement.

Distribution System Boundary (page 7):

The proposed linkage of an agency's distribution system boundary to a point of metering in compliance with the BOR Mid-Pacific Region, *Conservation and Efficiency Criteria,* 2008 is not acceptable. That standard has no logical relationship to the functional boundary of most west slope Sierra urban water agency distribution system boundaries.

West slope Sierra open channel; raw water distribution systems are, as stated earlier many miles long and integrated into the landscape. They may have no specific "order" of diversions. That is, there may be a mixture of diversion types (retail, wholesale, irrigation, municipal retail) and of various types of structures, which are used to provide service to retail water agencies, irrigation customers and municipal and industrial customers. These classes of customers and diversion types occur in an order that is not "neat" and easily categorized as "in" or "out" of the distribution system.

The boundary of the distribution system is more aligned with the actual operation and evolving design of the system which took place over an extended period of time. Thus, whereas the BOR standard for accuracy of diversions may be applicable in some places, it would certainly not be in other places in many west slope Sierra systems. In any event, such a uniform standard has no practical, or legal relevance, to the boundary of a distribution system.

Please eliminate a metering standard of accuracy from criteria relative to the distribution system boundary of an agency. The distribution boundary is best determined by the managing agency based on the operational requirements of the individual system, institutional constraints and other factors. There is no logical, legal or practical reason for a metering standard to be imposed in this determination.

Calculate Net Change in Distribution System Storage (page 10):

Please note that many west-slope Sierra distribution systems, composed of open canals and flumes, are built into the side hill slopes of the terrain. Thus, they act as collection systems for sheet flow runoff during precipitation and snow melt periods. This water entering the system varies from year-to-year and is a function of climate and not under the control of the managing agency so should not be considered "imported water". Nor is it metered.

Additionally, there are significant man-made storm water runoff collection systems that are channeled into the distribution system as a method to carry storm water. These runoff collections are not metered and are also not imported water.

These sources of water could, in some cases, potentially influence the total amount of water available for distribution that is not reflected in system storage (of all classes). To accommodate this fact the DWR should allow the managing agency to provide their own reasonable estimate of this influence.

Methodology 3: Base Daily Per Capita Water Use

Distribution Area (page 26):

The categories provided do not accommodate situations in which an urban water agency must assimilate another small water agency (that is not an urban water agency under statute due to size and/or total water diverted) and it's system due to a number of factors that may include a public health risk to customers of the smaller system. Some of these smaller systems must be assimilated due to failing delivery systems (some with losses upwards of 60%), failing treatment systems and fiscal problems.

When an urban water agency must, in mid-compliance (with SBX 7-7), take one of these highly inefficient systems into its own system it may significantly impact target objectives relative to the "new" customer base. There must be an accommodation within the SBX 7-7 process that allows for such unusual situations.

Urban water agencies should not be "punished" by having incorporated a less efficient smaller system under SBX 7-7 criteria. These assimilations of smaller systems improve the customers' reliability of delivery, quality of water and sustainability of system as well as improved customer service. Their (often) inefficiencies in GPCPD are usually one of the very reasons they are being taken into the larger system – so that they may be improved and better managed.

I would be happy to work with DWR staff prior to the final SBX 7-7 recommendations on this issue to develop a process to reflect such situations.

Revisions to Base Daily per Capita Water Use or Targets (page 29):

A full amendment process to an Urban Water Management Plan may take an extended period of time and consultation with numerous agencies. Under the current legal environment the agency would also potentially be exposed to additional litigation and potentially expose local general plans to litigation as well. More lawsuits should not be an intentional by-product of SBX 7-7 implementation.

It would be more reasonable for DWR to allow for a process whereby technical updates to the Urban Water Management Plan may be made by the agency without the formal Amendment process as reflected in the current proposal.

Such a lesser process would allow for technical updates and take advantage of improved information. The agency could forward the information – in consultation with the DWR – to DWR for review.

The current proposal is too onerous and unnecessarily exposes the subject agency, as well as land use planning jurisdictions depending on up-to-date information, to potential litigation.

Methodology 9: Regional Compliance

Compliance Assessment for Water Suppliers Belonging to a Regional Alliance (page 45):

This proposal is sound and should be maintained in its present form. Especially significant is the DWR recognition that the failure of a regional alliance to meet its target conservation objective should not impact a member agency (of the regional alliance) that has met its target conservation objective. This provision will allow for agencies to participate in creative regional alliances, but by doing so not subject their agency and customers to the potential failure of another agency in meeting their target conservation objective.

If you have any questions regarding these comments please do not hesitate to contact me at your convenience.

Sincerely,

John S. Mills

John S. Mills