

K

1  
2  
3  
4  
5  
6  
7  
8  
9  
10  
11  
12  
13  
14  
15  
16  
17  
18  
19  
20  
21  
22  
23  
24  
25  
26  
27  
28

**BEFORE THE PUBLIC UTILITIES COMMISSION  
OF THE STATE OF CALIFORNIA**

Application of California-American Water Company (U210W) for Authorization to Increase its Revenues for Water Service in its Monterey District by \$24,718,200 or 80.30% in the year 2009; \$6,503,900 or 11.72% in the year 2010; and \$7,598,300 or 12.25% in the year 2011 Under the Current Rate Design and to Increase its Revenues for Water Service in the Toro Service Area of its Monterey District by \$354,324 or 114.97% in the year 2009; \$25,000 or 3.77% in the year 2010; and \$46,500 or 6.76% in the year 2011 Under the Current Rate Design.

Application 08-01-027  
(Filed January 30, 2008)

And Related Matters.

Application 08-01-023  
Application 08-01-024  
(Filed January 30, 2008)

**REBUTTAL TESTIMONY OF JOHN KILPATRICK ON WATER ISSUES**

Lori Anne Dolqueist  
Sarah E. Leeper  
Grace Yang  
MANATT, PHELPS & PHILLIPS, LLP  
One Embarcadero Center, 30th Floor  
San Francisco, CA 94111-3719  
Telephone: (415) 291-7400  
Facsimile: (415) 291-7474  
E-mail: LDolqueist@manatt.com  
E-mail: SLeeper@manatt.com  
E-mail: GYang@manatt.com  
Attorneys for California-American Water Company

Dated: September 16, 2008

1 The basis of design report has estimated the increase in total capacity due to the  
2 replacement of these wells to be as much as 3,600 gpm. or 5.18 MGD. It is however  
3 anticipated that the replacement wells will result in a reliable increase of around 1.5  
4 MGD. The Lower Carmel Valley aquifer has heavy occurrences of iron-related bacteria  
5 fouling that quickly decrease well performance. The wells targeted for replacement are  
6 performing at only 20-25% of their original capacities due largely to iron bacteria fouling.  
7 The formation of the bacteria colonies is increased where ground water velocities are  
8 high. Colony growth is further aggravated when water levels in the well drop below the  
9 well screens, causing cascading water and providing more oxygen to the bacteria, as is the  
10 case when wells are over pumped. For these reasons, California American Water have  
11 assumed a reliable increase of 1.5 MGD of capacity from the replacement wells.

12  
13 Q7. Please describe the summer Firm Capacity of the system and the resulting production  
14 deficit.

15 A7. Firm Capacity is a measure of the reliability of a water system's source capacity to meet  
16 customer demands. The required source capacity is defined as follows: The capacity  
17 required to adequately, dependably and safely supply at all times the total requirements of  
18 all customers under maximum consumption. Maximum consumption is defined as the  
19 maximum day demand (MDD). Firm Capacity, expressed as a unit of flow, is the  
20 capacity that California American Water has determined will adequately, dependably and  
21 safely made available at all times of maximum consumption.

22  
23 This definition of the required source capacity is consistent with the standard used for  
24 source capacity by both the California Department of Public Health (Title 22, Chapter 16  
25 §64554) and by the California Public Utilities Commission (General Order 103, Section  
26 III). These standards both imply, by the use of terms such as at all times, adequately,  
27 dependably and safely, a level of reliability. Firm capacity is a measure of such  
28 reliability. The text of the referenced standards is included below:

1  
2  
3  
4  
5  
6  
7  
8  
9  
10  
11  
12  
13  
14  
15  
16  
17  
18  
19  
20  
21  
22  
23  
24  
25  
26  
27  
28

CPUC General Order 103, Section III, 4

Water Supply Requirements. The quantity of water delivered to the distribution system from all sources facilities should be sufficient to supply adequately, dependably and safely the total requirements of all customers under maximum consumption. (emphasis added)

Title 22, Chapter 16, Article 2, §64554, (a):

At all times, a public water system's water source(s) shall have the capacity to meet the system's maximum day demand (MDD). MDD shall be determined pursuant to subsection (b). (emphasis added)

To determine the quantity of flow that will be adequately, dependably and safely available at all times of maximum consumption (Firm Capacity), California American Water performed a detailed Comprehensive Planning Study (CPS) using engineering judgment to evaluate a number of issues regarding the water systems, and takes guidance from various standards and regulations. California American Water performed a Comprehensive Planning Study for the Monterey District and provided it as part of its rate case presentation. This document is further discussed in the rebuttal testimony of Mark Schubert and James Chelius.

In addition to the above-mentioned standards for source capacity, CDPH's Title 22, Chapter 16, gives guidance as to the specifics in determining the level of reliability, or Firm Capacity. Some of these specific items are as follows:

Title 22, Chapter 16, Article 2, §64554, (a), (3):

Both the MDD and PHD requirements shall be met in the system as a whole and in each individual pressure zone. (emphasis added)

1 Title 22, Chapter 16, Article 2, §6-4554. (c):

2 Community water systems using only groundwater shall have a minimum of two  
3 approved sources before being granted an initial permit. The system shall be capable of  
4 meeting MDD with the highest-capacity source off line. (emphasis added)  
5

6 Title 22, Chapter 16, Article 2, §6-4554. (d):

7 A public water system shall determine the total capacity of its groundwater sources by  
8 summing the capacity of its individual active sources. If a source is influenced by  
9 concurrent operation of another source, the total capacity shall be reduced to account for  
10 such influence. Where the capacity of a source varies seasonally, it shall be determined at  
11 the time of MDD. (emphasis added)  
12

13 The California Public Utilities Commission (General Order 103, Section III. 4) references  
14 a Water Supply Requirements Chart (Chart 1) as part of the Minimum Standards for  
15 average service requirements. An application of the Monterey System specific factors to  
16 the Water Supply Requirements Chart in GO 103 results in minimum water supply  
17 requirements determined in the range of 38.9 MGD to 86.4 MGD. For reference  
18 purposes, the current Firm Capacity of the Monterey District is approximately 15.7 MGD,  
19 and in this general rate proceeding, California American Water has requested projects that  
20 will increase the Firm Capacity to an approximate 19.4 MGD. This is considerably less  
21 than the Minimum Standards for average requirements of service. The reduced  
22 requirements for Monterey are attributed to the low per capita water use as a result of  
23 ongoing conservation efforts.  
24

25 In addition, it is worth noting that for industry practice on a national level, the  
26 Recommended Standards for Water Works, "10 States Standards", is a recognized  
27 authority on water works practice by a number of states. Specific guidance regarding the  
28 level of reliability of a water system, or Firm Capacity, is as follows:

1  
2  
3  
4  
5  
6  
7  
8  
9  
10  
11  
12  
13  
14  
15  
16  
17  
18  
19  
20  
21  
22  
23  
24  
25  
26  
27  
28

Part 3. 3.2.1.1. Source Capacity:

The total developed groundwater source capacity, unless otherwise specified by the reviewing authority, shall equal or exceed the design maximum day demand with the largest producing well out of service. (emphasis added)

For a simple water system consisting of a single pressure zone and multiple groundwater wells, it is quite clear that in applying the above standards, the required source capacity would be such that production from the groundwater wells should be able to meet the maximum day demands with the largest producing well out of service. The Firm Capacity would be the actual quantity of flow available with the largest producing well out of service. The Monterey Main system, however, is not a simple system, and requires a much more in-depth analysis to determine the Firm Capacity.

The Monterey District Comprehensive Planning Study discussed in detail the ability to adequately, dependably and safely supply at all times the total requirements of all customers under maximum day demands as a result of extensive investigations. The study concluded that additional capacity in the Main System is needed to meet the peak demands (maximum day demands). California American Water presented the project recommendations to increase the system production capacity to meet the peak demands as project A-1, included in this general rate proceeding as projects IP-0540-85,86,88,89 and 168.

Chapter 3 of the Comprehensive Planning Study presented the development of the demand projections. The maximum day demand was determined to be approximately 19.5 MGD. This value was arrived at through a combination of historical use data, and the use of a 95% confidence interval to determine the maximum day value.